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THE UNIVERSITY OF ALBERTA

CHILD PARTICIPATION
IN AN EVERYDAY ADULT PRACTICE:
LEARNING HAND ON HAND

BY

ANDREW BRENT ANDRESSEN ©

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF EDUCATION

IN SOCIOLOGY OF EDUCATION

DEPARTMENT OF EDUCATIONAL FOUNDATIONS

EDMONTON, ALBERTA

SPRING, 1996

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ISBN 0-612-10778-7

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The undersigned certify that they have read, and recommended to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Child Participation In An Everyday Adult Practice: Learning Hand On Hand submitted by Andrew Brent Andressen in partial fulfilment of the requirements of the degree of Master of Education in Sociology of Education.

Dr. Marilyn Assheton-Smith

Dr. Toh Swee-Hin

Dr. Eric Higgs

Date: December 21, 1995

ABSTRACT

The purpose of this study was to investigate the nature of legitimate peripheral participation of children in an everyday adult activity. Using a conceptual framework of symbolic interactionism and qualitative methodology, this naturalistic investigation was conducted over an eight week period.

The focus of the main study was the situated activity that took place when a core group of five children assisted an adult engaged in baking products for her family. A preliminary study was conducted with an action research group of teachers who were interested in improving their computer skills. Both studies shed light on the social dimension of learning and how important social relations are both to learning and to maintaining a community of practice.

Together, the two studies suggest that establishing situations where adults and children could engage in shared practical everyday activity might be a means of enriching common classroom practice.

ACKNOWLEDGEMENTS

I am indebted to the following people:

Joan, who generously offered her kitchen and her expertise, and those teachers and children who took part in both this study and the preliminary study, for their enthusiastic participation and indispensable feedback;

Dr.Marilyn Assheton-Smith, for her thoughtful guidance throughout the preparation of this thesis;

Dr. Toh Swee-Hin and Dr. Eric Higgs, committee members, who made many helpful comments;

Dr. Carl Urion for his valuable guidance as I began my graduate studies;

Dolores, Bryna and Kesia, my wonderful family, for their unfailing love and support.

'Just as one uses a burning candle to light others with', so the teacher transfers the spirit of the right art from heart to heart that it may be illuminated.

Eugen Herrigel

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CHAPTER ONE

INTRODUCTION TO THE STUDY

Background to the Problem

Much has been written in recent years about the importance of a highly developed sense of place and tradition to the well-rounded moral and intellectual development of young people. This is not only of interest to professional philosophers and ecologists, but it is also a growing concern for others who feel that they are losing touch with their own children and that in turn their children are losing touch with their roots.

David Orr (1992,1994) has explored extensively the philosophical orientation of North Americans that underlies a growing ecological and moral crisis, and the failure of our education system to successfully come to grips with it. Knudtson and Suzuki (1992) argue that we are not troubled by an inability to pass on information or to develop technological capability. Rather our problems are rooted in the way we perceive our relation to Nature and unduly magnify our importance in the grand scheme of things. Thom Henley (1989) and Wade Davis (1992) urge us not to attempt to return to some romantic ideal of the past, but to move forward to rediscover ways of maintaining a sense of belonging to the world and responsibility for it.

Education has the potential to play an important role in restoring healthy connections between people and their world. Exciting possibilities in this area are open to educators who

prove able to find ways to enrich abstract intellectual training through practical experience.

Education that seeks to strike a balance between these two types of learning; the abstract and the practical, would allow each facet of learning to inform the other. Such a balance would also help prevent one form of learning from disvaluing the other.

With specific reference to liberal education, J. Glenn Gray writes that it, "...can be pursued in the kitchen, the workshop, on the ranch or farm, in the casual acquaintanceships of every day as from the rarer friendships we learn wholeness in response to others" (Gray, 1984: p.81). It does not need to be confined to the classroom and traditional student-teacher relations.

This thesis examines two cases in which learners are engaged in a practical setting such as Gray proposes. It focuses on the importance of social context in contributing to the learning that participants discover as they work alongside experts. While the context of the main study is one of a domestic craft, there are broader implications for this type of learning. If children could enter contexts that would engage them in work alongside people of different cultures or those who are engaged in working towards social justice or environmental preservation, similar learning might be possible.

Alfred North Whitehead speaks for the advantages of such practical experience over "inert ideas" when he writes, "First hand knowledge is the ultimate basis of intellectual

life...The second-handedness of the learned world is the secret of its mediocrity. It is tame because it has never been scared by the facts" (Whitehead, 1917: p.43).

Another supporter of practical schooling, John Dewey, states that,

> In critical moments we all realize that the only discipline that stands by us, the only training that becomes intuition, is that got through life itself...But the school has been set apart, so isolated from the ordinary conditions and motives of life, that the place where children are sent for discipline is the one place in the world where it it most difficult to get experience- the mother of all discipline worth its name. (Dewey, 1959: p.17)

Michael Oakeshott adds that every practical activity involves two sorts of knowledge; technical knowledge which is knowledge of technique, and practical knowledge that exists only in use and cannot be formulated in rules (Oakeshott, 1962: p.7-8). He goes on to say that the two sorts of knowledge are involved in every concrete human activity. "In a practical art, such as cookery, nobody supposes that the knowledge that belongs to the good cook is confined to what is or may be written down in the cookery book; technique and what I have called practical knowledge combine to make skill in cookery wherever it exists" (Ibid. p.8).

Lave and Wenger (1991: pp. 52-54) propose a potentially effective means of overcoming secondhand knowledge and introducing young people directly to the richness of their practical world. They advocate situating experiences not only in the abstract, cerebral study of the classroom, but also in activity alongside adults who are engaged in an

ongoing social practice in the greater community. Such an interaction would involve learning as an integral component.

Situated learning functions as a bridge between a view of learning in which cognitive processes are central, and a view that holds social practice as the primary, generative phenomenon, with learning as one of its characteristics (Lave and Wenger, 1991: p. 34). Indeed, "Learning is a process that takes place in a particular framework, not in an individual mind" (Ibid. p. 15).

The link between situated social practice and learning is broader than simply learning in a specific situation, or learning by doing. It includes the idea that learning is an integral and inseparable aspect of social practice (Ibid. p. 31).

Damarin (1993) writes that, "...knowledge is no longer simply an individual acquisition, but resides also in groups or communities which share a situatedness" (p.27). She adds that theories of situated learning, "...valorize knowledges and ways of knowing and of constructing knowledge that lie outside those canons and methods which have heretofore been the rubrics and theories of school learning" (Ibid. p. 28).

Interaction between the learner and their situation helps us to apprehend knowledges that are not commonly articulated such as those of the oppressed, powerless and marginalised in our society. When knowers become aware of their existence at intersections of privilege and marginalisation, they have the opportunity to see themselves also as agents of learning and not simply the receptacles of

the knowledge of others.

Also, it is possible to tie situated learning to many kinds of practice. "Learning would be likely to take place whenever people interact under conditions of LPP" (Ibid. p. 19). This opens up the possibility of highlighting the importance of social interaction to learning in such diverse situations as intercultural, environmental, technological and vocational education to name only a few.

Statement of the Problem

This study intends to examine the nature and process of one such instance of situated learning. Specifically, it will seek tentative answers to the following question:

> Does legitimate peripheral participation of children in an authentic adult practice outside of school lead to a change in social identity of which learning is a part, and if so, what factors contribute to these changes?

> A secondary focus of this work is to explore the nature of children's authentic participation in adult activity, and the nature of learning that occurs in this context, with the implicit foil being the classroom or teacher-student environment.

Significance of the Problem

The education system in Alberta is currently the focus of discussions and planning that may well result in significant changes in the way it is conceptualised and delivered to the public. The provincial government, claiming broad popular support, is moving to centralise control over the funding, delivery, and supervision of educational services. At the same time it is contemplating new approaches to teacher preparation, certification and professional organisation. Taken together, these trends will likely have a significant impact on the way schools prepare children for their place in the adult society.

It appears that these developments are a response to the growing popular sentiment that an over-bureaucratised and unresponsive educational system is actively resisting parental and public input and innovations necessary for training children to become successful workers in a competitive global marketplace. Many of the solutions proposed by the public resound with the cry that "basics" are being ignored and that educators must be "held accountable" to ensure a "sound" education for Alberta's young.

John Elliott writes that, "Reflection directed towards the realization of values might be described as practical philosophy...Philosophy is not simply an academic discipline dissociated from the realities of everyday social practices and engaged in by specialists operating outside them" (Elliott, 1991; p. 51). With this in mind, a brief excursion into philosophy may serve to illuminate the importance of

harmonising the sometimes incongruous notions of "practical" and "education".

For philosophers such as Michael Oakeshott and Neil Postman, education is a conserving activity. Postman writes, "Our own culture is overdosing on change...Without at least a reminiscence of continuity and tradition, without a place to stand from which to observe change, without a counterargument to the overwhelming thesis of change, we can easily be swept away-in fact, we are being swept away" (Postman, 1979: p. 26). He goes on to argue that schooling has a role to play in standing in opposition to reckless progress; progress of the type that is creating the potential for disaster that Orr discusses.

Oakeshott's writing furthers the case for an education which should be concerned with activity in which "traditional" ways and ideas are passed on to the young. These traditions grow out of particular cultures and social arrangements. Traditions are not fixed and inflexible, nor is there the implication that a community must have single, unitary tradition. Rather, traditions are a flow of "sympathy"; an evolving sense of "this is just how we do things". Tradition is an intricate, concrete, coherent manner of living.

Oakeshott acknowledges that a tradition of behaviour "is a tricky thing to get to know. Indeed, it may even appear to be essentially unintelligible" (Oakeshott, 1977: p.233). As a result, there must be a "working out" of sympathies and social practices when the two find themselves

out of sync. This would involve basic democratic principles of discussion and compromise; of majorities being considerate of minority concerns.

Liberal education, as proposed by Oakeshott, is a very elegant unfolding of understanding. For him, "The human condition is a predicament not an itinerary" (Fuller,1989: p.11) and learning is a life long ordeal of unfolding consciousness (Oakeshott, 1975: p.23). Pupils in such schools should be "learned" rather than taught (Oakeshott, 1965: p.44). Teacher activity is specified by the character of the student who picks up understanding from the teacher's example as much as from their pedagogy. In this process, the young are initiated to a world of human achievement (Ibid. pp.46-47).

Knowledge is to be a combination of information and judgment. These are communicated together by both instructing information and imparting judgment (Ibid. p.57). Wisdom, the goal of education, comes as a side effect of gaining information. Learning to think, judge, and recognise intellectual virtues happens only through practice of looking, listening and reflecting (Oakeshott, 1975: p.29, and Oakeshott, 1965: p.60).

Currently in Alberta, there are a number of conflicting understandings of what education should be. Several of these incorporate some form of a call to return to basic education. People supporting these philosophies are not happy either with the roles or form of education and desire that the return more closely align schooling with their own personal

visions.

Some do not like the emphasis on self-esteem and various life skills programmes. These are seen to be the role of parents, family and society outside the classroom. Others disagree with such processes as whole language and blame the perceived literacy difficulties of high school graduates on this method (though the first groups formally instructed using this method are only now just entering high school). Still others resent the way that teachers exclude them from greater in-school involvement, and avoid criticisms by retreating behind claims of specialised knowledge.

Each group wants to return to some form of schooling that is familiar and comfortable to them in a world increasingly characterised by change. Some wish the 3-R's to be the extent of the curriculum; some desire phonics based reading and writing instruction; some wish to reduce the power of educational bureaucracies and unions in ways that would allow greater public control over the day to day classroom experience of their children; and others wish a stronger religious component to education. None of these groups is advocating the type of liberal education put forward by Michael Oakeshott.

Here lies a central problem for educators seeking to identify the sympathies of the community: that of clarifying or defining which traditions lie at the root of social practices and of introducing young people to them. Our society is increasingly pluralistic and this fragmentation makes it difficult to establish common reference points for

institutions such as schools. In addition, history is used by each group to justify its point of view, and its preferences.

Compounding the dis-ease in schools, is the background of an ever greater number of students who from a very early age are not being allowed the time and space to play, wonder, or be led to a blossoming understanding of their world. They are brutally plunged into a frenetic adult lifestyle the main goal of which is, as Oakeshott would describe it, to socialise young people into a "dark age devoted to barbaric affluence" (Oakeshott, 1972: p.90).

In addition to the problems of busyness, is the fact that for growing numbers of people there are no traditions. Marketing and fashion trends conspire to surround them with newness. The latest technological advances create obsolescence that is despised and abandoned as quickly as resources permit. Television, sports, movies, indeed the entertainment industry in general, focuses our attention on today with an orientation to tomorrow that fosters contempt for what used to be. We maintain a certain fondness for such things as antiques, classic cars, 60's rock music and fireplaces, but these are again oriented to current consumption and are not intended to elevate the human condition, produce clarity of thought or encourage moral development.

Children raised in such an environment are unable to bring to school the orientation to perseverance, discipline, and habits of attention, concentration, patience, exactness,

courage, and intellectual honesty that Oakeshott lists as essential for a student undertaking liberal education (Ibid. p.68).

In Alberta today, enlightened debate and the tolerance necessary to illuminate our common traditions are all too often lost in a frenzied rush to become competitive; to get ahead. Children, true to the immediacy of their high pressure upbringing, increasingly lack the discipline necessary to pursue an understanding of their world in a manner consistent with democratic principles.

The work of Lave and Wenger provides a useful theoretical base for one wishing to establish contacts between young people and those elders who hold the health of the biosphere as a high priority. They

> ...have begun to analyze the changing forms of participation in a community of practice: from entrance as newcomer, through becoming an old-timer with respect to new newcomers, to a point when those newcomers themselves become old-timers. Rather than a teacher/learner dyad, this points to a richly diverse field of essential actors and, with it, other forms of relationships and participation. (Lave and Wenger, 1991: p. 56)

The view that learning arises through participation in a diverse community, as Lave and Wenger propose, also introduces the possibility of change to an examination of tradition. Where "past ways of doing things" include intolerance, and lack of mutual respect between racial or religious in-groups, learning and identity development emerging from small groups of adults and children working together offers the opportunity to transform social

relations. As well as transmitting tradition and traditional task competence, members of such small groups could also welcome and include those who have been previously excluded, or respect without inclusion those who wish to walk their own path.

The study that follows examines what may initially appear to be relatively mundane activities. However, from these same activities, inferences can be drawn which might be important to environmental and peace education and social learning related to multicultural activity.

If "experts" in the ways of environmental conservation and traditional skills are carefully sought, and young people are engaged in working on a practical activity with them, it is worth considering the possibility that this might be an effective means of beginning to reestablish connections between generations, between people and their traditions, and between those involved in the activity and their natural surroundings.

CHAPTER TWO

THEORY

While some theorists advocate the importance of traditions and the working out of sympathies of the society, others are critical of common pedagogical practices that do not lend themselves to this necessary unfolding of understanding.

Susan Takata writes, "Many, many years of educational socialization have taught our students to "converge" on the "right" answer" (Takata, 1991: p.253). Such banking education, where teachers speak and students are passive listeners, does not prepare students for the active problem solving that will be demanded of them in real world situations.

Michael Apple states that, "There can be no longer any doubt that schools do seem to be institutions of economic and cultural reproduction" (Apple, 1982: p.1.), and critical pedagogy has been put forward as a means of overcoming the powerlessness and pessimism generated by reproductive theories (Luke, 1992: p.26). Carmen Luke writes that lived experience and intersubjective construction of meaning and identity formation are, "...new goals for self-empowerment and critical agency in a critical democracy" (Ibid. p. 26). Goodson adds that, "...what is needed is to involve the student in the process of 'sorting it all out'- what Dewey called 'the need of reinstating into experience the subject

matter'" (Goodson, 1976: p. 133).

Critical pedagogy is advanced as a means of freeing students to explore their lived experiences and to construct their own meaning with the goal of self empowerment and critical democratic participation (Luke, 1992: pp. 26-27). This critical subjectivity or "conscientization" (Ibid. pp 27) is based on something that modern schooling does not commonly promote, namely, "the power to speak, to critique, and to act in ways commensurate with their interests and emancipatory goals" (Ibid. p.28).

"The transformative task is for teachers to enable students to name and give voice to their experience, their subject positions, and then transform and give meaning to those experiences by critically examining the discourses that give meaning to those experiences" (Ibid. p.35). However, the current and growing emphasis on individual academic performance isolates students and keeps them from examining how schools function and what actions are open to them if they are to demand a more active and meaningful role in their own education (Sleeter, 1991: p. 15).

Elizabeth Ellsworth describes how hard it is for teachers to lead students to empowerment, or even a vision of their possible empowerment (Ellsworth, 1992: Chapter 6). The classroom context and typical classroom practices combine to limit student voice, even as the goal is to initiate a "rational deliberation, reflection, and consideration of all viewpoints" (Ibid. p. 94).

> These rationalist assumptions have led to the following goals: the teaching of analytic and critical skills for judging the truth and merit

> of propositions, and the interrogation and selective appropriation of potentially transformative moments in the dominant culture. As long as educators define pedagogy against oppressive formations in these ways, the role of the critical pedagogue will be to guarantee that the foundation for classroom interaction is reason. In other words, the critical pedagogue is the one who enforces the rules of reason in the classroom. (Ibid. p. 96)

Thus teachers, no matter how noble their motives, find themselves enforcing thought processes that strive for universal validity. At the same time, these very thought processes serve to marginalise and silence many groups in society (Ibid. p. 96).

Instead of promoting thinking that is bound to reason, Ellsworth prefers a poststructural thought bound to discourse (Ibid. p.96). This discourse becomes a means to unite experience and understanding for all involved in the learning process. She cautions, however, that narratives expressed through discourse will be partial. "... in the sense that they project the interests of 'one side' over others" (Ibid. p. 97), and as such must be critiqued as to their implications for other social movements and their struggles for self-definition (Ibid. p. 97). The challenge is for schools to find some means of allowing both teachers and students the intellectual space to explore their perspectives without the constant pressure of evaluation and correction that tends to be a growing part of accountability.

A focus on narratives therefore indicates the need for a more flexible approach to curriculum. In the same way that cartography is different from exploration, teachers need to

plan the presentation of subject matter, but they also must be careful that, "...planning is concerned with the process of learning and does not prescribe what is going to be produced" (Goodson, 1976: p. 133). Everyone in the classroom must be able to do enough exploring to begin making their own social maps, rather than being directed exclusively by those produced by others.

Schools are sites of conflicting demands, conflicts and compromises (Apple, 1988: p. 115). In a society that holds individualism as one of its dearest values, little else could be expected. Thus, given the multitude of diverse expectations for contemporary schooling, and despite the work of those who argue in favour of a pedagogy transformed by postmodernist/ poststructuralist analysis, and critical pedagogy, it could still be argued that, "a school is a lousy place to learn anything in" (Becker, 1972: p. 89 ff.).

Howard Becker is one writer whose criticisms of schooling do provide a useful starting point for analysing the disconnectedness that many students, and not a few teachers, feel in school. He writes that schools create the myth that people learn something in them that they would not otherwise know (Ibid. p. 89). Despite this, he argues, students do not learn what schools propose to teach them (Ibid. p. 90). Material is presented in some order of increasing complexity to groups of students who are assumed to have the same needs and capabilities (Ibid. p. 92). Teacher-student relationships are problematic, as is the evaluation procedure established to reassure all involved

that learning is taking place (Ibid. pp. 95-96). Schools, concludes Becker, are not good places to learn, "...precisely because we establish them without considering the circumstances under which other ways of proceeding, perhaps less organized, might be more efficient, more humane, or both" (Ibid. p. 106).

In order to remedy the problems that he highlights, Becker advocates learning things necessary for life within the context of the practical world of work (Ibid. pp. 105-106). He proposes that learners must be given more responsibility for learning enough to be acceptable members of a productive adult community (Ibid. pp. 105-106).

As Becker admits, there are problems with widespread application of an apprenticeship model of learning. Constraints in real-life situations may prevent students from learning what they wish to know (Ibid. p. 105). Also, not all work sites wish to become involved in education (Ibid. p. 108), and it is not easy to set up specific learning objectives to train people for practical work in an unknown future (Ibid p. 108).

However, Becker's writing does encourage educators to be open to the possibility of a more practical aspect to the instruction of young people. And it is this practical context that has the potential for students and educators to find the space necessary to express their reality and the time necessary to listen to the experiences of others.

A useful way of understanding the importance of shared practical experience is found in the writings of symbolic

interactionists. They propose that knowledge cannot be separated from interaction and social organisation (Clarke and Gerson, 1990: p. 180) and that knowledge represents and embodies work as a particular way of organising the world through a series of commitments and alliances (Ibid. p. 181).

Herbert Blumer writes that humans act towards things on the basis of the meaning that the things have for them. This meaning is derived from, or arises out of, social interaction with others. In turn, these meanings are applied and modified through an interpretive process used by people in dealing with the things they encounter (Blumer, 1969: p. 2). "To ignore the meaning of the things toward which people act is seen as falsifying the behaviour under study. To bypass the meaning in favour of factors alleged to produce the behaviour is seen as a grievous neglect of the role of meaning in the formation of behaviour" (Ibid. p.3).

Meaning becomes a social product formed in and through defining activities of people as they interact (Ibid. p.5). Human groups consist of human beings who are engaged in action. Indeed, society itself exists in action (Ibid. p. 6). Thus, if children are to learn, they must be exposed to other forms of schooling than simply listening to lectures in classrooms, watching films, or mutely following guides on field trips. From this perspective, the problem becomes one of establishing activities in the world in which young people learn in an interactive context, where other learners and those more experienced share information and perspectives in order to create new understanding. "By virtue of symbolic

interaction, human group life is necessarily a formative process and not a mere arena for the expression of pre-existing factors" (Ibid. p.10).

John Baldwin (1986) writes that children assume roles, and through role taking with a generalised other, based on the structures of the whole society, they gain an ever broader and more abstract perspective on self, and this higher level of understanding helps to further develop and organize the individual's personality and self (Baldwin, 1986: p.111). Indeed, in 1934 Mead wrote, " 'A person is a personality because he belongs to a community, because he takes over the institutions of that community into his own conduct'" (Ibid. p. 111).

People engaged in everyday activities are not simply responding to stimuli but are engaged in a process of self-indication in which objects are noted and given meaning. This meaning in turn becomes the basis for directing further action (Blumer, 1969: p. 14). Joint action becomes essential to a group life that creates and upholds the rules, rather than the rules creating and upholding group life (Ibid. p.19).

Jean Lave and Etienne Wenger (1991) provide a means of understanding the importance of a social context for learning. For them, situated activity has the central defining characteristic of what they call "legitimate peripheral participation" (Lave and Wenger, 1991: p. 29). This term is used to draw attention to the point, "...that learners inevitably participate in communities of

practitioners and that the mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of a community" (Ibid. p. 29).

Going well beyond Becker's call for learning in the context of a practical world of work, Lave and Wenger propose that legitimate peripheral participation is not apprenticeship as it is commonly understood, where experts are involved in sharing their expertise with trainees. Indeed, this common form of apprenticeship, "... had become yet another panacea for a broad spectrum of learning-research problems, and it was in danger of becoming meaningless" (Ibid. p. 30). Lave and Wenger prefer to use the term legitimate peripheral participation for referring to situations where newcomers to a context begin their association with the expert by simply watching and then gradually spiralling into engagement in learning experiences without formal instruction or evaluation (Ibid. p. 30).

For Lave and Wenger,

> ... the situatedness of activity appeared to be anything but a simple empirical attribute of everyday activity or a corrective to conventional pessimism about informal, experience-based learning. Instead, it took on the proportions of a general theoretical perspective, the basis of claims about the relational character of knowledge and learning, about the negotiated character of meaning, and about the concerned (engaged, dilemma-driven) nature of learning activity for the people involved. That perspective meant that there is no activity that is not situated. It implied emphasis on comprehensive understanding involving the whole person rather than 'receiving' a body of factual knowledge about the world; on activity in and with the world; and on the view that agent, activity, and the world mutually constitute each other. (Ibid. p.

33)

Legitimate peripheral participation is a means of describing engagement in social practice that holds learning as a central component (Ibid. p. 35). Also, the peripheral nature of the participation in ongoing activity is seen to be a positive term as opposed to its antonyms: unrelatedness and irrelevance to the activity (Ibid. p. 37).

There are clear connections between legitimate peripheral participation and symbolic interactionism in that both share the notion that meaning develops in a social context. However, legitimate peripheral participation goes further by proposing that learning also is an integral part of generative social practice in the lived-in world. As participants strive to resolve dilemmas that are presented by their social contexts, learning, like meaning, arises from their ongoing participation in a community of practice.

Though they are concerned with learning, Lave and Wenger have avoided making applications of their concepts to schooling. This has been done on purpose since, as they say, "Issues of learning and schooling seemed to have become too deeply interrelated in our culture in general, both for purposes of our own exploration and the exposition of our ideas. More importantly, the organization of schooling as an educational form is predicated on claims that knowledge can be decontextualized, and yet schools themselves as social institutions and as places of learning constitute very specific contexts" (Ibid. p.40). Lave does say, however, that educational activities other than in school could benefit

from further research (Lave, 1985: p.172).

Gadamer's discussion of the concept of play provides another way of seeing how important practical participation in everyday activity is to the development of one's understanding of both themselves and their world.

> What is merely play is not serious. Play has a special relation to what is serious. It is not only that the latter gives it its 'purpose': we play 'for the sake of recreation,' as Aristotle says. More important, play itself contains its own, even sacred, seriousness. Yet, in playing, all those purposive relations that determine active and caring existence have not simply disappeared, but are curiously suspended. The player himself knows that play is only play and that it exists in a world determined by the seriousness of purposes. But he does not know that in such a way that, as a player, he actually *intends* this relation to seriousness. Play fulfills its purpose only if the player loses himself in the play. Seriousness is not merely something that calls us away from play; rather, seriousness in playing is necessary to make the play wholly play. Someone who doesn't take the game seriously is a spoilsport. The mode of being of play does not allow the player to behave toward play as if toward an object. The player knows very well what play is, and that what he is doing is 'only a game'; but he does not know what exactly he 'knows' in knowing it. (Gadamer, 1992: pp. 101-102)

Children who participate alongside adults in an adult activity may well think that they are only playing at being adults. However, the seriousness of the task, that practical goal that is the aim of the participants, allows the children to lose themselves in the "game" and thus come to a new understanding both of the players and the play.

Gadamer also writes that human play must play *something*, and this play must take place in a space specially reserved

for the movement of the game (Ibid. p. 107).

For the purposes of situated learning and this study, his comments would indicate that legitimate peripheral participation must take place in both an activity that adults regularly do, and in a proper playground; one that is the same as the one that adults play in during their everyday activity.

Furthermore, "The players play their roles as in any game, and thus the play is represented, but the play itself is the whole, comprising players and spectators" (Ibid. p. 109). By their very presence, children who are peripheral participants become a part of the activities being conducted by the adults at the centre. When the playing becomes a play, "...it puts the spectator in the place of the player" and the play takes on the same meaning for both (Ibid. p. 110). Children who play along with adult activity cannot help but be changed by the experience and come to a new understanding both of the activity and of their ability to participate in it.

There is room for the understanding of legitimate peripheral participation discussed above to find some application in education. It opens the possibility of meeting the concerns and needs of several groups currently silenced and disempowered in today's schools.

Children who engage in a practical, everyday activity with adult members of the community, have the opportunity to understand the adult world and its values in a way not possible when learning is closely proscribed by curriculum

and timetables in a school, and where children are overwhelmingly surrounded by their peers.

Adults have the chance to share skills and attitudes with children who would ordinarily not be a part of their daily practice. They too could come to new understandings; understandings of the nature of young people, their interests, and talents, and of education in our society, in a way not possible when these children are removed to secure, remote and largely impenetrable schools.

Both groups, due to a low expert-student ratio, could have the time and freedom to speak; to ask questions, tell stories, and build relationships with the potential to generate both knowledge and the beginning of important reciprocal understandings that could lead to significant social change.

CHAPTER THREE

REVIEW OF THE LITERATURE

Definition of Terms

For the purposes of this study, several potentially ambiguous terms relating to the interaction of novices and experts engaged in a common activity are defined below:

Situated Learning

The first term, *situated learning*,

> ...contributes to a growing body of research in human sciences that explores the situated character of human understanding and communication. It takes as its focus the relationship between learning and the social situation in which it occurs. Rather than defining it as the acquisition of propositional knowledge, Lave and Wenger situate learning in certain forms of social coparticipation. Rather than asking what kinds of cognitive processes and conceptual structures are involved, they ask what kinds of social engagements provide the proper context for learning to take place. (Hanks, 1991: p. 14)

Situated learning was introduced by John Seely Brown, Allan Collins, and Paul Duguid in 1989 in an article in Educational Researcher (McLellan, 1993: p.5), and grew out of a variety of studies of cognition in practical, everyday settings (Spindler and Spindler, 1985, 1987; Lave, 1985, 1988; Scribner,1985).

These writers propose that within any social setting, the social actors are carrying on a dialogue expressed as behaviour, words, and symbols. This dialogue is learned when

the actors are children and goes on developing throughout life as circumstances change. The actors also apply their cultural knowledge to exert some control over the social situations in which they find themselves and to make these situations work for them.

Brown (1988) says that one cannot separate knowing and doing. Knowledge arises from an interaction of mind and world in a way which makes it impossible to capture the nature of conceptual knowledge completely in explicit, abstract accounts as they are presented in school. The explication and abstractness found in school leads to the development where, "school lessons are fraught with difficulty and failure for many students." (Lave, 1985: p. 174).

A common criticism of schooling today is that graduates are increasingly unable to function in the world of work. Those who advocate situated learning would suggest that part of the reason for this is that what impacts most powerfully on students is the ambient culture of school rather than explicit teaching, and this pervasive culture does not allow learning that is easily transferable to the world of real practitioners (Brown, 1988: p.7).

Teaching methods currently in common use,

> ... often try to impart abstracted conceptual tools as fixed, well-defined, independent entities that can be explored in prototypical examples and textbook exercises. But such teaching denies students access to either the activity or to the culture that they need in order to develop an active understanding of a particular concept. (Ibid. p. 6)

What is necessary instead, these writers argue, is for

students to be given a chance to participate in instances of authentic activity that lie outside and around the world of schooling, and to learn from that activity just what is needed to function effectively in it. An illustration of such a need is found in Garth Mangum's (1987) comments that the youth of today are not responsible because the jobs that they are given in the world do not call for responsibility.

Some studies have approached situated learning as a rationale for applying powerful technology in the classroom. Hardisty and Thrush (1989) advocate using computers to create an interactive situation for learners in a classroom context. Stem (1991) also assumes that computers can provide a practical situation for learners.

Both of these studies hold that there is a real body of knowledge "out there" to which sufficiently sophisticated computers can provide access. While trying to apply theories of situated learning, they fall short of creating an instance of an authentic community of practice into which cognitive apprentices could gradually become integrated through LPP. A simulated or hyperreal world is a disposable and discontinuous world. No matter how interactive such a simulation might be, it is not the true world of shared human experience.

Lucy Suchman (1987) provides a thorough examination of the nature of situated learning and the problems of human-machine communication. She suggests that the creative response of sophisticated computers to human inputs approximates, but is not yet sufficient, for creating

authentic situations of interaction.

The concept of legitimate peripheral participation in authentic situations of practice is difficult to operationalise. Indeed the very concept, as it has been proposed and developed, rests on the assumption that a plan would negate the natural character of a situation and skew the understandings that might arise from it.

Problems of operationalisation were examined in a series of articles in the March 1993 edition of Educational Technology. Brown and Duguid state that, "It is a fundamental challenge for design-for both the school and the workplace-to redesign the learning environment so that newcomers can legitimately and peripherally participate in authentic social practice in rich and productive ways-to, in short, make it possible for learners to "steal" the knowledge they need."(Brown and Duguid, 1993: p. 11). They caution however that such a development will not be easy since, "Communities can be, and often are, diffuse, fragmented, and contentious" (Ibid. p. 13). Their recommendation is that learning be supported from the demand (student) side rather than from the supply (teacher) side.

William Winn argues that, "Situated learning occurs when students work on 'authentic tasks' whose execution takes place in a 'real world' setting. It does not occur when students are taught decontextualized knowledge and skills" (Winn, 1993: p. 16). He proposes that learning environments be made more adaptive in developing appropriate learning situations: for older students preparing specifically to

enter the adult world of work, this would mean practical authentic experiences, and for younger students, the freedom to construct knowledge for themselves as authentic activity is brought into the classroom.

Despite these suggestions, there continues to exist the tendency of schools to discard experiences obtained outside the classroom, and for organisations to exploit students for their own ends (Ibid. p. 20).

Suzanne Damarin examines whether situated knowledge can co-exist with classroom knowledge (Damarin, 1993: p. 29). Her response is a qualified yes. It can be done, she proposes, through sufficiently sophisticated relational multimedia databases and telecommunications that are put to use by serious students for educational purposes. As with the writers above, who proposed technology as a means of creating situated learning, one could argue that computer generated or facilitated situations do not qualify as authentic human communities of practice.

For Shaun Harley (1993) the challenge to teachers becomes that of developing methodologies and course content that support cooperative activity, and reflect the interaction of knowledge that the students bring from home and the things they are expected to learn in school. The final result is that meaning is established <u>by</u>, and not <u>for</u>, the learner. Such an approach to schooling, he cautions, would affect allocation of fiscal resources in a school district and it is unlikely to be embraced without further research work to substantiate situated learning as a viable

development in instructional practice.

Brown, Duguid, Winn, Damarin and Harley, all demonstrate an understanding of what constitutes situated learning, but they become mired conceptually when they seek to create authentic communities of practice in the classroom or conventional school setting.

This ongoing struggle is the focus of a further series of articles in the October 1994 issue of Educational Technology, written in response to a critique by Steven Tripp (1993) of the March 1993 articles. Articles by McLellan (1994), Brown and Duguid (1994), Winn (1994), Streibel (1994), Damarin (1994), Hay (1994) and the Cognition and Technology Group at Vanderbilt (1994), offer some interesting clarification of their intent in the 1993 articles, but do not provide fruitful new insights on how one might transfer examples of authentic community practices into classrooms.

The essence of situated learning, as it was originally proposed, requires experts in some activity functioning as they always do in their everyday practice. What is necessary is the study of a "going concern", and it is hard to transport students to such places, or to establish them inside a school. As a result, what children are exposed to and end up learning about in school, is school culture and not authentic cultures of practice as they exist outside school. Any attempt to clearly examine the nature of learning in an authentic situation must take students to an example of some such situation and study the developments there.

Those such as Kenneth Hay (1993), who see the development of situated learning as a serious challenge to established schooling practices, might argue that it disempowers and even oppresses students, potentially distorts their understanding, may stifle creativity, and will likely frustrate students accustomed to the imposition of traditional teacher authority. In response to this, one should acknowledge the possibility for harm to students in any learning situation, and be appropriately vigilant, but one could also charge that traditional schooling does exactly the same things to students and one must be no less vigilant there.

In a study of the diving community in California, Edouard Lagache (1993) explored the question of the amount of exposure required before newcomers consider themselves to be full members of a community of practice. He discovered that a great many competent divers drop out of the sport because they are unable to maintain some form of meaningful contact with experienced divers after their introductory lessons have been successfully completed. He proposed that learning lies in the shift of individual identities through networks of social relations; a process that takes a considerable amount of time and effort.

His study suggests that both the learner and the community must be committed to taking whatever time may be required to build and protect identity formation until it is able to stand on its own. Furthermore, care would need to be taken, when setting up any study of situated learning, to

ensure that sufficient time can be committed to the involvement by both students and experts.

Lagache's work also is useful in addressing the issue of dropouts from any community of practice. The reasons that dropouts give to explain dropping out may well be only part of the picture. An inability to deepen social relations to the point where they support a shift in identity may also underlie their unsuccessful attempt to remain in the situation.

Authentic Activity

The second term, *authentic activity,* is simply the ordinary activity of the practitioners of a culture (Brown, 1988: p. 9). Such an activity originating outside the school cannot be transferred to the classroom without having it become part of the school culture and thus losing its authenticity (Ibid. p. 10).

For example, the real world of authentic activity provides supports for practical problem solving and the learning that arises from this. Learners are readily able to ask questions of experts, manipulate objects, and collaborate with others. They are, in the terminology used by Brown and Duguid (1993), stealing knowledge they need from others. However, in schools learners are generally denied these supports under the assumption that it will undermine accountability and progress through a "merit system" of exams and marks. Teachers may say that they are introducing children to the culture of readers, writers, scientists,

mathematicians, and so on, but instead they are predominantly engaging in the understandings and procedures of school culture.

Damarin argues that what is essential to developing an understanding of situated learning and authentic communities of practice is a shift from the psychological to the sociological as the knowledge base upon which school teaching and learning are theorised and refined. Indeed, students and teachers must come to understand that learners are context travellers. As such, they must develop a greater sensitivity to the contexts in which they find themselves so that they are able to acquire the understandings necessary to effective functioning as they constantly resituate themselves (Damarin, 1993: pp. 27-32).

Legitimate Peripheral Participation

The third term central to this discussion of situated learning in authentic activity is that of *legitimate peripheral participation.*

> This central concept denotes the particular mode of engagement of the learner who participates in the actual practice of an expert, but only to a limited degree and with limited responsibility for the ultimate product as a whole. (Hanks, 1991: p. 14)

Lave and Wenger state that learners inevitably participate in communities of practitioners who have mastered a skill that the learners wish to acquire. Legitimate peripheral participation provides a way of speaking about the

relations between newcomers and old-timers as the newcomers become assimilated or socialised into communities of practice (Lave and Wenger, 1991: p. 29).

What is being discussed with legitimate peripheral participation is not a form of apprenticeship as it is commonly understood in Alberta. Rather it is very much similar to an instance of situated learning where a newcomer is understood to have a legitimate reason for being in a particular social setting and for learning by doing (Ibid. p. 32). The newcomer is not merely a passive observer. As a result of this engagement in activity with an expert, learning is an integral and inseparable component of authentic social practice.

Legitimate peripheral participation (LPP) is relevant to the practice of the masters at the centre of some type of practice. It is not isolated as a pedagogical strategy or teaching technique but is an analytical viewpoint on learning; a way of understanding learning (Ibid. p. 40). What Lave and Wenger intend by its development is to, "...inform educational endeavors by shedding a new light on learning processes, and by drawing attention to key aspects of learning experience that may be overlooked" (Ibid. p. 41).

Almost all of the literature dealing with LPP to date has not been school based. Michael Coy (1989) includes studies in his book that explore cognitive apprenticeship, but these take place in the context of adults becoming involved in the practical world of expert practice. Lave and Wenger (1991) use studies of midwives, tailors,

quartermasters, butchers, and nondrinking alcoholics to develop their concept. Lave (1988) studies adult shoppers in grocery stores.

In another article, which provides the introduction to studies of vegetable clerks, warehouse workers, and dieters, Lave specifically states that, "Research on everyday practice, however, stands in conflict with the functional theory of schooling" (Lave, 1985: p. 174), and argues that what schools teach best is a partial and sporadic instruction in a technology of practice (Ibid. p. 175). Consequently, the preferred approach for researchers who share her convictions and have worked to develop an understanding of situated cognition, has been to explore and develop their understanding of cognition completely away from the assumptions and pressures inherent in traditional school settings.

While not dealing specifically with LPP, Mehan (1993) and McDermott (1993) have conducted studies that do attempt to shed light on the importance of social interaction in a school setting.

Mehan examines the ways in which everyday interaction in schools generates social relations. In turn, these relations result in some students being labeled as having learning disabilities. Certain social practices generate textual representations of children. These written documents in turn become divorced from social interaction and employ an absolute, unquestioned psychological language that proves overpowering to other ways of seeing students.

McDermott looks at how learning disabilities "acquire" students who might function effectively in everyday life, but come to the attention of teachers and testers who provide the social arrangements to degrade individuals who have differential rates of learning.

The study which is discussed below will examine students that the other studies have not examined. Specifically, it will look at the interaction that took place between an adult and several children who were jointly engaged in the everyday practice of family baking. It will also attempt to identify ways in which interaction in this practical setting differed from interaction commonly found in formal schooling.

Zone of Proximal Development

The fourth and final term comes from Lev S. Vygotsky (1978) who provides some very useful insights into how the interaction of novice and expert might be observed and analysed. He refers to what children can do on their own in the face of a task or problem as their actual developmental level. The *zone of proximal development* is the distance between the actual developmental level, and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.

Vygotsky, like Gadamer, highlights the importance of play to social development. He says that young children are tightly bound by situational constraints and that in play,

they always behave beyond their average age; above their daily behaviour (Ibid. p. 102). He states that play creates a zone of proximal development that provides a much wider background for changes in a child's needs and consciousness than do more formal settings.

Vygotsky puts clear emphasis on the importance of active human involvement in making sense of social settings. He states that mental functions are socially formed and culturally transmitted and gives a glimpse of the transformational potential of play and interaction with talented mentors when he states that, "If one changes the tools of thinking available to the child, his mind will have a radically different structure (Ibid. p. 126).

Building on the work of Vygotsky, Rogoff et al. (1993) take the perspective that, "...children's development occurs through active participation in cultural systems of practice in which children, together with their caregivers and other companions, learn and extend their skills, values, and knowledge of their community" (Rogoff, 1993: p. 1). Their concept of guided participation, or scaffolding, which bridges the known and the new, is similar to that of legitimate peripheral participation (Ibid. p. 1). It reminds us that culture is learned along with technique when novices and experts get together on some practical project.

Their work is useful as well, in coming to a practical definition of community which they see as, "...a group of people having some common local organization, values, and practices" (Ibid. p.3). This view of community helps one

keep in mind that schools, neighbourhoods, or municipalities are made up of many small groups, holding similar beliefs, who are trying to work out broader communal sympathies on an ongoing basis.

Conclusion

In conclusion, the literature suggests that a study of LPP take as its subject an authentic activity outside of school in which students could become involved as legitimate peripheral participants.

Consideration must be given to the qualities of the expert. This person must be prepared to involve children in a situation in such a way that they are free to enter and move about in a zone of proximal development and thus use the skills of those around them to assist them in the development of their abilities.

It also indicates that care must be exerted to ensure that participation in the chosen community is appropriate to the age and capabilities of those students involved. In this way, insights may be gained into what contributes to the changes in roles and understandings of participants in everyday social interaction.

With these recommendations in mind, the study which follows will examine the question of how legitimate peripheral participation of children in the practical context of home baking changes not only the way the children see themselves, but how they expand their knowledge of expert adult practice. It will also examine how such a community of

practice is initiated and maintained, and how there are linkages between what occurred in this domestic setting and wider concerns of engagement in communities which focus on environmental, multicultural and vocational issues.

CHAPTER FOUR

METHODOLOGY

This chapter outlines not only the particular procedures for the main study, but also the reasons for using them. It includes information concerning the design of both the preliminary study and the main study. It describes the lengthy search for a main research setting, the participants who were eventually chosen, and outlines data collection procedures, and methods used for data analysis in both studies.

The Preliminary Study

A preliminary study was conducted over ten weeks, and concluded about a month prior to the beginning of the data collection for the main study. Initially this study was part of the requirements for a graduate course in the application of action research techniques. Its purpose was to focus on how teachers expanded their proficiency with computers rather than studying school-age children in an out of school context, but as the thesis research was conducted, parallels between it and the action research study became apparent and worthy of discussion here.

I approached a group of three colleagues, all elementary teachers, who agreed to become part of an action research group that would focus on how professional development with computer technology could be approached as legitimate peripheral participation in a community of computer practice.

A fourth teacher expressed the desire to take part in the study as word of the project spread, but since various constraints limited this person's involvement, the participation was written out of the study.

The nature and purpose of the research were discussed with the teachers and confidentiality and anonymity were assured. Each participant was informed that they were free to opt out of the project at any time.

As part of an action research project, each of the teachers became involved in shaping the form of the work. They were fully aware that their participation was being observed and recorded. As well, each participant became a vital part of an ongoing process of discussions, interviews, and practical computer work designed to ensure that their points of view were fairly and accurately presented. Explicit authorisation was sought before quotations were used, and each participant had a chance to read and offer feedback on both the final action research report and on the nature of the findings presented as the preliminary study of this thesis.

Before beginning the practical work with computers, I interviewed each of the participants to gain a clearer idea about their background training and experience with computers. Transcripts were made of each interview and these were read by, and discussed with, the teachers. This procedure was repeated at the end of the study as well.

As computer literacy was a policy priority in both our district and school, and frequently a topic of discussion, I

was aware that some teachers were not comfortable with the technology or their ability to work effectively with it. I approached three infrequent computer users about forming a group to explore the possibility of learning about computers in a practical context. To highlight the practical nature of the activities, those involved would work on material for their classroom or personal use and would seek help from others as necessary.

The three teachers who volunteered for this study had tried over the years to become comfortable with computer technology and yet they still felt frustrated by it. The literature cited above indicated that participation in an authentic activity, time to become initiated into this activity, and the freedom for trainees to seek expert help from those around them, would be necessary for them to develop a new identity as increasingly skilled practitioners.

Word of the group's formation spread, and two other knowledgeable people, regular and proficient computer users, agreed to provide assistance to group members should it be needed. As a result, a community of practice was formed that represented the staff's range of interests and talents regarding computers.

The three key teachers in this study felt that prior to the computer experience of the preliminary study, they had been learning material that someone else thought important but for which they were not yet ready. They felt that the pace of instruction had been too fast, and the practical use for the information being given to them had been minimal. In

addition, the instructors had been relatively unknown to them.

Their feelings towards computers centred mainly on the perceived impersonality of the machines but still reflected either a need or a desire to become more proficient with computers. Each one saw it as important both professionally and personally. All had some prior experience with computers both at home and at work, but their keyboarding and mouse skills varied.

These teachers had watched and questioned expert computer users at various times over the years. They had on occasion sought help and had attended workshops, but they had never reached the point of feeling independently comfortable with the current technology.

I found that they no longer wanted, or felt that they could afford, to sit in the sidelines as spectators. They wished to get actively involved in learning the skills that were relevant to their situations. They were ready to move from the periphery closer to the centre of expert computer practice.

Design of the Main Study

The intent of this study was to obtain a rich and comprehensive understanding of the means by which novices in a domestic craft activity came to see themselves as increasingly capable practitioners of that craft. The study was based on an interpretive research design utilising a qualitative methodology and naturalistic enquiry. It was

exploratory in that there was little information available regarding the ways in which experts in a domestic craft pass on knowledge and understanding to novices outside of formal apprenticeship programs and vocational education.

Glaser and Strauss state that both qualitative and quantitative methods can be useful to verify and generate theory, but the primacy of emphasis depends on the interests and training of the researcher, and on the kinds of material that is needed for the theory (Glaser and Strauss, 1967: p. 17).

Babbie's writing is in agreement with this position. He states that, "Usually, the best study design is one that uses more than one research method, taking advantage of their different strengths" (Babbie, 1992: p. 106) but he adds that for studies of what he calls 'thinking units', and the study of behaviour appropriate to pairs of sets of roles is one of these units, qualitative research methods, "...can reveal things that would not otherwise be apparent" (Ibid. p. 286).

In the qualitative approach, "...methodologies refer to research procedures which produce descriptive data: people's own written or spoken words and observable behaviour" (Bogdan and Taylor, 1975: p. 4). Researchers using this approach are interested in the subjective nature of human behaviour, and seek to develop an understanding of how people develop their own understandings of the world.

With regard to naturalistic research, Hammersley states that its defining feature, "...involves the investigation of 'a given area of happening in terms of its natural or actual

character, as opposed to the observation of a surrogate or substitute form'" (Hammersley, 1989: p. 155). Researchers using this approach are more interested in processes rather than products, and seek to construct a model of the activity under study rather that setting out to test a pre-defined hypothesis. Also, "The immediate application of these studies to the solution of everyday practical problems is particularly desirable." (Brandt, 1972: p. 5).

The meanings held by the participants were seen as central to this study. Thus the research was designed to search for understanding rather than forming conclusions or generalisations about the nature of novice/expert interaction in an informal craft setting.

Limitations

Williamson, Karp and Dalphin present several limitations to qualitative research methods (Williamson, Karp and Dalphin, 1977: pp. 216-218).

First is that the method is not applicable to the investigation of large social settings. This study is not intended to examine a large setting. Rather, it takes as its focus a group that is small enough to be studied in detail by one investigator.

Second, they say that there are few safeguards against the particular biases of the field researcher. I have attempted to outline my attitudes and background interests in the discussion of the limits of schooling as it is commonly structured in Alberta, and of my concern that young people

maintain contact with their community traditions and the natural world. Furthermore, I have chosen to write using the first person point of view since this helps make explicit my involvement in the study.

Third, the argument is presented that there is a greater likelihood of the field researcher's selective perceptions and selective memory biasing the results of the study. In attempting to deal with this, I took detailed field notes, tape recorded the interviews, and wrote transcripts of these immediately after the sessions. I recorded reflections on the sessions in a research journal and then brought questions that arose from the observations and reflections to the participants during semi-structured interviews.

The fourth limitation is that the field researcher inevitably pulls out only a segment of the data that exists and that this may not really represent the situation. While this limitation is a concern for those using quantitative methods as well as qualitative methods, I have attempted to develop checks on the data. I have used methodological triangulation, or more than one method for data collection (Denzin, 1978: pp. 340). Participant observation has been combined with semi-structured interviews.

In addition, the interviews were conducted with the novices, the expert and a parent to gain a broader perspective on their view of the experience. The observations were conducted during six weekly sessions of about two hours each. Interviews of the main participants were conducted at the middle and the end of the study. The

information arising from these interviews was then reexamined and the findings were presented to the participants for their input before the final copy of the report was written.

Fifth, is the argument that the mere presence of the researcher will change the social system and influence behaviour. I acknowledge that the situation under study was affected both by my interest and my presence, but I attempted to minimise this influence by choosing a setting in which strangers and non-participants were commonly present and by attempting to blend in with these people on the periphery.

Sixth is the concern that there is no set procedure for defining the field research process, and explaining exactly how the work was done so that it could be replicated. I have attempted to be as detailed as possible in the sections below in order to give a clear picture of how this study was set up and conducted. The main concern with this study, however, was less with reliability than with reaching a valid understanding of the specific experiences of the participants. As Bogdan and Taylor state, "Truth then emerges not as one objective view, but rather as the composite picture of how people think about the institution and each other" (Bogdan and Taylor, 1975: p.11).

The Search for a Research Setting

Lave and Wenger caution that the selection of a setting for legitimate peripheral participation must be done carefully. They insist that,

> ...learners must be legitimate peripheral participants in ongoing practice in order for learning identities to be engaged and develop

> into full participation. Conditions that place newcomers in deeply adversarial relations with masters, bosses, or managers; in exhausting overinvolvement in work; or in involuntary servitude rather than participation distort, partially or completely, the prospects for learning in practice. (Lave and Wenger, 1991: p. 64)

With their words in mind, I began a long process of locating a suitable setting for this study.

In keeping with my background interest in environmental and social justice issues, I wished to locate an expert with a similar orientation, as well as skill in some traditional vocation or craft. The search for a suitable expert provided new insights into the way many adults view the place of children in our society, and into the difficulties of establishing legitimate peripheral participation of children in situations of everyday adult practice.

As I first began the search for a setting, I contemplated the possibility of exploring an urban-rural connection between novices and expert. My daughters had entertained friends over the years, several of whom did not understand how trees, bushes and plants in our back yard garden could produce edible food. They would only eat produce from the store, and were very suspicious of our fresh fruits and vegetables. I thought that if urban students from nine to twelve years of age were able to engage in some form of useful work with a farmer, then any changes in identity and understanding which grew from such a partnership might also help connect the young people to the land. I also thought that involvement with "focal realism" as discussed by

Borgmann might prove interesting (Borgmann, 1992: pp. 116-126).

My initial search for contacts with farmers was through calls to provincial government offices that dealt with agriculture in the classroom, summer employment programs, student work experience, rural education and development, and various soil and water conservation offices. I discovered that none of these programs dealt with students of the ages that I was intending to involve in the study. There was some interest in youth who had completed high school and were interested in career training in farm management and agribusiness, but that training would have been of a vocational nature and broader than the limits of my study required.

I investigated federal programs dealing with prairie farm rehabilitation, as well as two provincial agricultural college programs. The results were much the same. Those I talked with were not interested in younger students and did not think that the technical and mechanised nature of modern farming would lend itself to involvement by uninitiated urban children.

The calls did yield the names of farmers who were active in promoting agriculture locally. When called, these farmers were supportive of the need for urban children to understand how their food is produced, and of the need for public education to become involved in practical training for students, but each had established a routine and an operation that did not lend itself to the involvement of children.

They were also concerned about the supervision and safety of youngsters, as well as the loss of productive time while they explained and supervised tasks.

I next called the local organisers of a regional agricultural exhibition, and placed an advertisement outlining my interests in their newsletter. No calls were forthcoming.

With reluctance, I abandoned the search for an agricultural setting in late October, after about two months of calls and investigation. Next I contacted several local sporting goods businesses that might have had some interest in cultivating connections with young people. The response was much the same as with agriculture: the proprietors were concerned with supervision of students and the loss of productive work time.

As a result of these calls, and due in part to my readings of Lave (1985), Lave and Wenger (1991), and Geer (1972), I began to look for an activity which would be much less formal than I had previously envisioned.

Through December and January I explored the possibility of children engaging in activity with an expert in a domestic craft. I thought that possibly a senior practising a hobby might have the desire for company and a need for assistance. I also reasoned that such an expert, even if they intended to eventually sell their products, might be under less pressure to be financially productive. Furthermore, a craft activity might remove some of the concerns for novice safety that had arisen in previous discussions.

Calls to local seniors' residences were greeted with suspicion and even a little hostility on the part of the managers. They did not want anyone bothering their residents since they had apparently experienced difficulties in the past with undisciplined youngsters who came from schools to "help out".

Next I contacted the local guilds of weavers and potters but neither group was particularly active and I was unable make further contacts with crafts people.

It was now late January and I still lacked a setting. I had also begun to form some interesting ideas about the place of children in our society. Adults in a broad variety of activities had so far proven quite uninterested in becoming involved with children who were seen as potentially unruly, a drain on productivity, and generally better off in the safety of the classroom. Practical experiences for young people were viewed in much the same way as sanitary landfills: it's about time such things were set up, but not in my back yard!

I next began to explore the possibility of involving both children and their parents in some shared activity. This step might address at once the various concerns about novice safety, discipline of participants, propriety of the activity, transportation of participants, costs of the activity, and loss of classroom instruction that had been raised at one time or another in the previous months.

In searching for a family activity that might fit the requirements for this study, I called a contact in Native education in Edmonton. He offered the possibility of

involving ten to fifteen families in an intercultural camping experience in late July at Lac Ste. Anne. Though presenting interesting possibilities for examining identity change, this project would need to be pursued some time in the future due to my timeline for completion of the thesis.

By mid February, ongoing conversations with a number of acquaintances had given rise to the idea that bread baking might be an authentic everyday activity that could safely and productively involve novices. I made calls to four people who were known to regularly bake in their homes. None were interested in engaging in a series of relatively simple baking activities with unknown school children.

I then made contact with a member of the local environmental action group who baked regularly for her family. She was very interested in participating in the study, and we met the next week to discuss arrangements for the project. I had found a setting.

The Setting

The setting was the expert's kitchen; a large, bright, recently renovated room. Major appliances included a convection oven and microwave oven, along with refrigerator, stove, and dishwasher. There was also a large island between the cupboards that allowed easy access from all sides. Since baking was the expert's hobby as well as a practical part of food preparation, she had a wide variety of small appliances, and specialised equipment for cooking that would facilitate the involvement of a number of novices at once.

The Participants

Eight people, three adults and five children were approached and agreed to participate in this study. The open nature of the setting allowed others to enter and participate briefly from time to time. To ensure confidentiality, pseudonyms have been used for each person.

Joan, the family baker who agreed to have her kitchen become the setting for this study, was an articulate business professional with a keen understanding of current environmental issues and the need for parents to maintain a close relationship with their children. She baked regularly for her family and her children participated from time to time. They all preferred home made baking to that from the store. For her, baking was also a form of recreation, and ingredients of yeast, flour, salt and water are symbolic of the earth.

In keeping with the idea that the activity studied should be as natural and everyday as possible, and yet not overly demanding of the novices, we decided to not bake bread. Its considerable demands on time and physical strength would have far outweighed any advantages the symbolism would have offered. Instead, each week the group would prepare a baked product.

I allowed Joan considerable freedom in selecting participants for the study once she understood its general requirements. Considering the nature of the after school setting and the variety of people present on a regular basis, she chose her daughter Jessica and two of Jessica's friends

Jean and Wendy. All three girls were grade five students in the neighbourhood school.

By the time the study was begun, it was learned that Jean was moving to British Columbia and would only be able to attend the first session. Joan suggested that two cousins, Brian who was also in grade five, and his sister Perry who was two years older, be invited to join the group. These young people and their parents all were acquainted with each other at the beginning of the study, and were familiar with the setting. It turned out that though they were cooperative participants and had a well developed understanding of the nature of work in a kitchen, Brian attended the first two sessions and Perry only the second session. When asked about this, they claimed that though they enjoyed the activities, homework and busy schedules prevented participation throughout the study.

There are similarities here with Lagache's study of the diving community. He discovered that after a successful initial exposure to the diving community, some new divers proved unable to maintain the social relations that would allow them to enter fully into that community of practice. It is a possibility that similar difficulties made it impossible for Brian and Perry to continue with the group for all six sessions.

In addition to the formal members of the project, there were a number of others who from time to time were involved to varying degrees. Will, Joan's twelve year old son, and Elizabeth, her seven year old daughter, were occasional

participants and spectators. Vicki, a high school girl who was staying with the family until the end of the school term, and a number of school friends and neighbours provided a natural background of busy community involvement that Joan said was very much part of how the family usually operated on weekday afternoons.

At the end of March, after awaiting approval of the research proposal by the ethics committee, I called each of the families involved and we arranged a meeting of both the children and their parents one day after school at Joan's house. We met in early April and I outlined the nature of the study and how the children would be involved.

Since the study involved underage participants, ethical issues were highlighted. The parents were informed that all names would be kept confidential, that notes and interview tapes would be destroyed at the end of the project, and that pseudonyms would be used for the location of the study and for the participants' names in both the field notes and in the final report. They were informed that they and their children would have access to the chapter containing the findings of the study for a readback and confirmation of quotations before the final copy of the thesis was written. They would have ultimate control over whether or not details of their participation were to be included in the final report.

The participants and their parents were informed that each of them had the option of withdrawing from the activity at any time. Joan and her children were also informed that

they had the same freedom.

The participants and their parents were informed that the risks of the project were those involved in any household baking, and that there would be adult supervision of the children at all times during the study. Also, since I had no prior contact with the children, and since I had no contact with their school or teachers, there was no possibility of their participation affecting their grades or chances of promotion at the end of the year.

The parents were informed that the study would consist of the observation of six sessions of baking held weekly and lasting not more than two hours each. In addition, the children would be asked to participate in two tape recorded interviews, and their parents would be asked to participate in one tape recorded interview at the conclusion of the study. The group was informed that their family schedules would be carefully considered in setting up the timetable for the sessions, and that every attempt would be made to accommodate illness, participation in sports events, and holidays.

Any questions the parents or their children had were answered during this ninety minute meeting. At the end of it, the parents were asked to sign a letter of permission allowing their child to participate (Appendix A). They all agreed to participate, and the next day I sent a letter to each family giving a summary of what we had discussed and thanking them for agreeing to participate in the study (Appendix A).

Data Collection Procedures

The six observation sessions were held between April 27 and June 14, 1995. Illness and other concerns twice forced postponement, and the day set for each weekly session varied depending on the needs of the participants and their families.

All sessions were held after school, between 16:00 and 18:00 hours. Typically the participants walked to Joan's home together after school on the days of the study, and were involved in conversation and a snack when I arrived. Ten or fifteen minutes of visiting and organising materials for the upcoming activity passed before the participants were called together and the group set to work.

When the project of the day was ready for baking, the participants would head off together to play, do homework or watch television. Samples were passed around for tasting once the baking was cool, and each week all the participants had a small sample package of their work to take home to their families.

Jessica and Wendy were interviewed part way through the study on May 24. Since Brian and Perry did not participate beyond the first two sessions, they were not interviewed. Joan was formally interviewed May 29. We also talked informally, at the end of each session as the project of the day baked and cooled. At that time she answered any questions that had arisen from the observation or from the initial analysis of previous sessions.

On the evening of June 19, after the observations were

completed, transcribed and reviewed, a final tape recorded interview was conducted with the children, Joan, and Wendy's mother Mira. Tentative arrangements were made to meet in early August to go over the findings of the study and make the necessary revisions together. Refreshments were served afterwards to celebrate the conclusion of this stage of the study.

At the beginning of each observed session, I recorded an account of the date and time of that observation, the participants present, the project of the day, where the activity was conducted and how I was involved in making the observations. During the activity, I took notes on how the participants were involved, and as much of the actual conversation as I could record. As I recorded events, I made every effort to maintain what Spradley terms "the concrete principle" and "the verbatim principle" (Spradley, 1980: pp. 67-68). He urges researchers to make a verbatim account of what people say and to use concrete language when describing observations in order to avoid using abstract jargon and imposing the researchers interpretations on what was happening.

As well as this substantive account, I maintained an analytic account of impressions and questions requiring further attention. Immediately following each session, I typed a transcription of that day's notes.

The interviews were held in the family room of Joan's home and were tape recorded. These were individual semi-structured interviews and again transcriptions were made

immediately after the session.

I maintained an ongoing reflective journal throughout the time I was searching for a setting, conducting the observations and interviews, and during the analysis of the data afterwards.

Data Analysis

Denzin writes that, "The basic unit of analysis for naturalistic behaviorism becomes the *joint act*, whether this is a dinner party, a socializing relationship, crowd behaviour, nations at war, or conduct in small groups." (Denzin, 1978: p.7). The unit that I was analysing was the act of baking conducted by an expert and novices working together on a common task. Data consisted of transcripts of nine interviews and six observation sessions. Analysis of these data began with the first observation session as I thought about what had happened during the activity, and as I transcribed my notes. These reflections and impressions were entered in a research journal where they were used to generate questions for the interviews and the analysis at the end of the observations.

The first step in formal analysis of the main study involved an examination of the interview notes in search of an indication that the novices had indeed begun to see themselves in a different way during the baking sessions. Each interview was read several times and was compared to the others. As it became clear that the participants, their parents and the expert, all indicated that some change had

taken place in the way the participants viewed their abilities, I began to analyse the observation material in search of factors that might have contributed to that change.

The transcripts of the observation notes were then read and reread until categories and patterns of expert and novice activity began to emerge. Copies of the observation transcripts were made, and coding of the emerging patterns of activity was done by hand with pencil in the margin and colored highlighting in the text. Similarly coded material was then marked as to its original place in the transcript, and cut and pasted into separate computer files.

Once again, this material was reread until increasingly fine distinctions could be made in the nature of the activity. Then the material was recoded and transferred to more specific computer files.

On August 9, I gave copies of the findings, as written in Chapter Five, to the participants. They all read this section and give their feedback which was then incorporated into the final text of this study.

Analysis of the data for the preliminary study was conducted in a similar manner to the data for the main study as discussed above.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

Introduction

The purpose of the main study was to determine if legitimate peripheral participation of children in an authentic community of practice would lead to a change in social identity, with learning as a component, and if so, what factors contributed to these changes. The preliminary study was useful in highlighting both similarities and differences between adults and children working alongside experts in communities of everyday practice.

The Preliminary Study

Though the preliminary study dealt with adults in a community of computer users, rather than children in an out-of-school domestic adult practice, there were interesting parallels between the two groups.

Locating Participants

Finding teachers to form an action research group was not difficult. I had known many of my colleagues for years and was aware of how they viewed computer technology. As an insider in the school community, I was able to identify and approach three teachers who had some prior experience with computers, but who felt they had not yet reached a satisfactory level of proficiency with them. Interest in participating in an action research project, coupled with the

possibility for professional development, resulted in ready agreement to participate.

Research Schedule and Setting

As I considered the backgrounds and needs of the participants at the outset of this project, I envisioned the group getting together at least once a week in the school library to explore specific questions the teachers raised based on direct experience with the Macintosh™ computers located there. I thought that the different talents of the group members might enable them to help each other rather than always seeking outside expert assistance. This did not happen.

From the first week, it proved impossible to get all the members together at the same time. Sickness and the multiple, urgent demands of school and family called different people away on different days. Thus the sessions were limited to one person at a time and were held whenever we could get together.

Initially, the teachers did not feel that their busy schedules provided much time for them to engage in a laborious exploration of computers outside of the sessions. Progress with practical skills was made, however, and frequent brief discussions were carried out over lunch or "on the run" concerning how their skills and perceptions of computers were changing.

I had also anticipated that the sessions would be relatively short and that questions encountered between

sessions could be dealt with fairly promptly. In contrast, our meetings often took an hour or longer and included an element of problem posing, and practice as well as information and trouble shooting.

Practical Computer Work

Each teacher mentioned that it was important that their regular sessions focused on practical tasks. In previous professional development with computers, the tasks assigned were not immediately practical to their everyday classroom needs. For example, working with simulated data in a spreadsheet application had little direct meaning for a teacher interested in writing a parent newsletter to send home at the end of a week. Without this direct connection between everyday needs and the skills being taught, learning was very slow if it took place at all. In the action research group, the practice sessions were always driven by the practical needs of the teachers, rather than being structured by an electronic tour in the computer, or an overview presented by an outsider.

Changes in Ability; Changes in Identity

Beginning almost at once, and continuing on throughout the study, the most noticeable improvements were greater proficiency in mouse use and growing confidence with opening and operating various computer applications. Increasing familiarity with the title bars particular to these applications helped increase the teachers' ability to open

documents, modify work, and save the changes. This was critical to more rapid progress in other areas. Within a month of the start of our sessions, the teachers were beginning to move graphics, export them, change fonts, and experiment with spreadsheets and the fax/modem.

As basic proficiency improved, about six weeks from our first meetings, another important development occurred. The teachers began to demonstrate an increased willingness to work on their own. With growing enthusiasm, they began to bring their discoveries as well as their questions to the sessions which began to be driven by the needs of the learners. On several occasions, short meetings at lunch or during breaks were able to overcome problems that might once have required more time, but were now becoming merely small stumbling blocks.

As all of the teachers began to do work on their own, they found that they had the terminology well enough in hand that they could more efficiently seek help from those around them. One teacher also began to explore the possibilities of using the school's fax/modem, and another began getting into more focused applications to help with report cards, daily lessons and personal writing. The teachers were very much aware that they were improving, and frequently talked about how exciting it was to begin to see themselves as computer literate after so many years of frustration.

The Importance of Working with Friends

Familiarity between members of the action research group

was important for two reasons. It helped to maintain the group in the face of a variety of conflicting demands on teacher time and energy that may well have pulled it apart otherwise, and it helped contribute to the increasing proficiency with computers that the participants experienced.

The teachers frequently mentioned that those who had presented computer workshops to them in the past had generally come with what the learners perceived to be a fairly rigid plan of what was to be learned. These outside experts seemed to think that they knew what the teachers needed to make their work easier, and were eager to present the latest advances in both hardware and software technology.

One teacher commented that some instructors she had experience with were far more interested in showing off their skills than in teaching those who were having trouble getting going. Another stated that those making the presentations regularly assumed a level of computing ability that was not shared by everyone in the session. She did not feel that she could ask the questions necessary for her to make efficient progress, and she therefore sought help from peers long after the session was over.

Two teachers mentioned that the pace of computer presentations often was too great for them to get enough practice with simple tasks before the instructor moved on to more complicated activities demanding mastery of those same tasks. Also, the rapid movement through applications made it difficult if not impossible for observers to follow the steps and they were reluctant to hold up the process to ask for

clarification. This supported the idea that learners are most effective when they are able to take what they need from those working around them in order to reach a certain level of understanding, rather than being given what an instructor thinks is important.

Our small informal gatherings highlighted the importance of trust between participants during the initial stages of exploring a new skill or idea. An unknown instructor could compound the problems faced by someone trying to gain confidence with a new skill. These people may be unsure of how the instructor will respond to simple mistakes and "obvious" questions, and this might silence someone who did not feel that they had permission to request needed help, or who lacked the terminology required to pose articulate questions.

For teachers, this reluctance to request answers to their questions could also be a product of long experience with lecture style rather than exploratory learning. Learners accustomed to such situations may well defer to the wisdom of an "authority". They may be unwilling or unable to divert the instructor from his/her important agenda in order to answer necessary but possibly trivial questions.

Another advantage of engaging in introductory computer exploration in a small group was that it eased the pressure on teachers who were reluctant to look inept in the eyes of their peers. Two teachers stated that in larger sessions in the past, they found it easier to labour on in confusion rather than draw the attention of others in the class to

their predicaments. The security to tackle problems without pressure from others, and an atmosphere encouraging exploration and discovery, did help the teachers to improve their confidence and ability with computers. It was evident in just a few sessions that the teachers in the group were relaxing and beginning to enjoy the process.

Also, since the teachers were quite familiar with each other, conversations and stories about past experiences surfaced more readily than if the participants had been surrounded by strangers. These exchanges were important to the teachers as they attempted to express their frustrations with computer technology, and as they gradually assumed the identity of skilled computer users.

Eventually, our discussions could expand somewhat to examine why computers that had seemed so inscrutable just weeks before, now appeared to be relatively easy and useful. We discussed some of the comments from the initial interviews in January, and began to talk about both reasons for those initial feelings, and reasons for the later changes. Through this process, a group that began with the specific purpose of working together to improve computer skills gradually came to explore broader issues surrounding the application of technology in education.

Since it appeared that the opportunity for teachers to talk about their experiences with computers was important to their unfolding understanding of computers, I circulated excerpts from the book Teachers' Voices for School Change by Gitlin et al.(1992) to the extended group. In particular,

Chapter 6 entitled, "Out of silence: developing teacher voice" raised some interesting comments.

Regarding the importance of working closely with other trusted teachers:

"Talk, time and reflection were necessary for me to come to a fuller understanding about why I was not seeing herself as computer literate."

"The action research group made it possible to begin to ask questions about computers and their applications without giving participants the feeling of being dumb."

"I knew that I could trust others to help me learn very basic computer skills without worrying that they would be judging or evaluating my ability/inability. The establishing of an expectation that we would meet at least one day/week made it comfortable to set a "date" for computer practice."

Some well hidden feelings surfaced as a result both of the article, the discussion surrounding it, and the newly discovered confidence with a previously inscrutable technology:

"Eleven years ago I was beginning to use the computer in my classroom and was criticised by an evaluator who saw it as taking children away from meaningful instruction-the only criticism in that evaluation."

"Male teachers have done all the inservicing which I have attended and this brings up the stereotype of women being inept in the use and understanding of machines."

The problem of change being implemented in schools without either the support or understanding of teachers was

also raised:

"Teachers were not asked at any time if they wanted to have computers as part of the curriculum or their classrooms. They were mandated by the district as a new 'God'".

"It was expected by those that wished computer literacy to be implemented in elementary, that the necessary keyboarding instruction came out of language arts time. There was no questioning that this might have an impact on students' reading and writing."

Another issue raised was the presence of community pressure to make changes in program delivery when there was no clear understanding of the costs of implementing that program in terms or time or energy, as well as money:

"Parents demanded computer use and instruction, yet they were not sure why it should be done. They felt a vague unease that if their child did not receive proper instruction they would be left behind in the rapidly advancing world of computer knowledge."

Regarding the importance of learner directed instruction within the action research group, one teacher mentioned, "There was a more positive attitude of 'use what you need to make your life easier'. This allowed further exploration of more general attitudes concerning computers and their use. Patience and empathy present in the group led to the idea that 'You can do it. You are computer literate.'"

Some reflection on the logistics of delivering ongoing professional development to a diverse group of busy professionals also was raised:

"Even though there was an understanding that we would have ongoing opportunities to explore areas of interest (following our institute day) that in fact never happened. I believe there was one meeting but it was scheduled for the lunch hour when I was already back in class. I was unavailable because my teaching schedule differs from that of other staff members. There was no follow-up after the (computer) P.D. day."

Through the practical exploration of computer technology within the framework of a theory of situated learning, the teachers in this group gained the confidence and language necessary to both use computers more effectively in their daily lives, and to begin to explore why they had not previously been able to get comfortable with computer technology despite the efforts of instructors and many hours dedicated to the process.

User's Guides as "Expert"

At times, we found it necessary to turn to the user's guides for the applications with which we were having problems. As basic work in an application became more proficient, members of the group attempted to move into more complex activities. These were not always easy steps to take, and we were constantly stealing the knowledge we needed, not only from each other and from people outside the group, but also from the manuals. Also, this search for understanding, and the feeling of joint exploration it

produced, advanced the skills of everyone involved with the project regardless of their abilities and experience with the programs.

Mutual Instruction

From the beginning of the sessions, instruction was mutual. By exploring unfamiliar programs together in search of answers to specific questions, we all discovered a great deal about how these programs operated. When it happened that we were unable to help each other, the skills of other accomplished computer users were important to solving small but intractable problems. Increasing proficiency made it possible for the teachers to more easily seek and receive assistance from others. They were able to express their needs with greater precision and to understand relatively technical responses.

Physical Coaching

Interaction between the novice computer users and the computer hardware took place primarily through the keyboard and mouse. Typing skills that the teachers brought to the computer varied, but each person realised the importance of good keyboarding skills to efficient computer use. This connection with previous typewriter experience made use of the keyboard fairly unproblematic.

The mouse proved more difficult to master. A mouse practice tutorial on the computer helped, as did playing with changes to various control panels located in the Apple™ menu,

but there were times in early sessions when the "click and drag" demands of the mouse were very frustrating. When words and demonstrations failed, the most practical means of overcoming problems was for an experienced user to put their hand on the hand of the novice and guide it until the novice got a "feel" for the way the mouse operated.

Play

The first exposure to computers that members of the action research group had together was relatively playful. Instead of dourly approaching complex tasks, and expecting immediate results, we found it beneficial to laugh at erratic mouse skills and enjoy exercises intended to improve them. A Mouse Practice program and exploring the possibility of making changes in the Control Panel settings was a light way to improve skills. When word processing was begun, two teachers would type a few words and then explore the possibilities open to them of changing fonts, columns, margins, and of cutting and pasting material. A playful approach when first introducing the applications made errors and unexpected deletions less frustrating.

It was evident in just a few sessions that the teachers in the group were relaxing and beginning to enjoy their learning. Words like "easy" and "fun" became more common than "frustration" and "problem".

Mistakes and Their Correction

Mistakes were a common aspect of each computer session

but they did not lead to a sense of failure, Rather, they contributed to the novices' growing understanding of what a computer demands of its user. Either individually, or by appealing to the experience of others, the teachers were able to make some changes in order to successfully complete a task. Sometimes it took several days to find answers to specific problems, but in the end, each one was successfully resolved. When the novices' questions were based on practical need, they stayed with their tasks until they were able to complete them to their satisfaction.

Presenting a Finished Project

Printing a project, whether it was a letter, a graphic, or a report card entry, was an important sign of success for the teachers. Attractive newsletters, banners for the classroom, and demonstrations of skill in using and troubleshooting computer hardware proved to the novices that they were mastering the sequence of actions necessary for successful computer work, and it was proof to others that these teachers were becoming increasingly proficient computer users. Indeed, with growing confidence, the teachers in the action research group began to advise and assist others with relatively less developed skills who sought their help on specific tasks.

Summary Statement

To sum up our action research group's experience with demand side learning of computer skills, identity change

began almost at once, and its pace continued to accelerate throughout the study. It was important for the novices to feel that they could ask the questions of both experts and peers in order for them to make efficient progress.

Through the practical exploration of the theory of situated learning, the teachers in this group gained the confidence and language necessary to both use computers more effectively in their daily lives, and to begin to explore why they had not previously been able to get comfortable with computer technology.

The experience with the preliminary study raised some considerations to be dealt with in the final data collection. A relatively small group would be important for the study but not all participants may be available for all sessions, or for the duration of the study. It would be advantageous if the novices both knew each other and had prior meetings with the expert. Relatively simple, practical tasks should be the focus of group activity. The study should be of at least a month's duration, the sessions should be between one and two hours in length, and the timing of these sessions should be flexible enough to accommodate the busy outside schedules of participants and their families.

The Main Study

Findings in the main study proved to have several similarities with those of the preliminary study though the situations were quite different.

Changes in Ability: Changes in Identity

Joan's comments during the first interview provided useful insights into her understanding of what constitutes expertise in baking. Asked when she would know that the novices were becoming successful bakers, she responded, "...a lot of adults are still not really good. I think when they show a lot of interest in trying new things and they have the confidence that they can do it...and maybe not always wanting to do the same thing over and over again, but saying, 'Well, I've done this kind of skill before so now I could use it.' "

Her response indicated that expertise is a journey rather than a fixed destination and that people grow in degrees of mastery of a skill throughout the time they practice it.

The novices in this study were well aware that, though they were not competent in all aspects of baking, they were making progress.

In the first interview, Wendy said, "I know what I'm doing better than I used to...I'm seeing it more often and understanding it better...as I get it; as I do it more, it becomes easier." Three weeks later she responded, "I'm more confident in myself. I feel like I can do a bit more than I could before. Like, before I could only help my Mom and stuff, and now I can probably do more stuff by myself."

During the first interview, Jessica offered a balanced view of her abilities with the comment, "I know what I'm doing but I think I could be a little bit better at it." At the end of the sessions she added, "Well, now my Mom trusts

me a bit more to cook things...and sometimes I help her with dinner."

Joan too was aware that the girls were changing. When asked about it during the first interview she responded,

> Yeah. I see a big difference in their confidence level. I have more trust in them. I would feel quite comfortable now giving them their own project and removing myself, and I think they would know when they needed to give me a holler...I've been really pleased with what I've seen. I think the girls have learned a lot, and I think they have developed an interest in something that maybe they really haven't thought about before. Wendy has shown that she's got a lot of confidence now...Jessica would just know that... she could do this now.

In the second interview she added,

> I think I am more trusting of what they can do...I was never really afraid to let them try things. I think now I am more likely to encourage them and then just stand by and trust them and be there...And two months ago I never would have said, "Do you want to come and do this?" Because I would have let them do it themselves almost tonight.

In responding to the question of change, Wendy's mother felt that, though slight, there had some change with regard to Wendy's participation in baking or cooking at home, "She makes Caesar salad more often now, yes."

These comments indicate that there had indeed been some change in both the way the novices saw themselves, and in the way they were viewed by Joan and their parents.

With regard to the actual practice of baking, a large change in performance on the part of the novices was not readily discernible. The novices all reported that they had

cooked before and appeared to be quite familiar with the activities involved in preparing food for baking. Over the course of the six sessions, small changes were evident however. For example, in the third session Joan showed the novices how to set down the hand mixer so that the beaters dripped into the mixing bowl rather than on the counter. On each occasion when the mixer was used in the next four weeks, the person operating it set it down carefully as they had been shown.

In another instance, Joan was working with Wendy to show her how to make exact measurements of dry ingredients. Joan said, "We need 1 1/3 cups of sugar. Can you show me?" Wendy picked up the measuring cup and studied it. Joan showed her how to set it down on the counter to get a level reading, and which numbers on the inside of the cup would be appropriate in this case. Wendy then poured the sugar into it.

Not long afterward, as Wendy was doing some more mixing on her own, Joan checked her progress with the measuring and commented, "You've got the touch kid!" and they went on to talk about rounded measures being less accurate than level readings. By the last session both Wendy and Jessica were measuring dry ingredients accurately on their own.

For the novices, the most important sign that they were making progress came in the form of recognition by others.

Wendy indicated the importance of her mother's approval by her comment, "Yeah, she's letting me do more because she knows that I know what I'm doing better than I used to."

Her family also was important. When discussing her

biggest success in baking so far, Wendy said, "Well, when I baked brownies, and stuff. The brownies two weeks ago. When I took those home *everybody* liked them."

Wendy's mother also indicated that her family was seeing some improvement in Wendy's skills, but when asked if they were willing to eat the things that Wendy prepared she responded, "Well, yes. Yes, they do, but you know there's of course the... (teasing)."

For Jessica, her mother's trust and her family's approval were also important for her to see herself as a competent baker. She was aware, however, that this approval would not always be readily given regardless of her abilities. In talking about her older brother, Will, she said laughing, "If he liked it, he wouldn't...if he knew it was made by me, he would still hate it, you know?"

FACTORS CONTRIBUTING TO CHANGES IN SKILL AND IDENTITY

Awareness of Ability

Though the novices knew that they had much to learn about baking before they could consider themselves to be experts, they also knew that progress would eventually be made as a result of their experience.

Joan's younger daughter, Elizabeth, was a participant in the activities from time to time. Primarily she watched from the periphery, visited a bit with the participants, asked them a few questions, nibbled on some extra ingredients, and

went on her way. From time to time, however, she requested simple jobs to do, and these requests were readily integrated into the ongoing activity of the group.

These jobs were not unnecessary busy work, but rather contributed to the success of that day's project. Elizabeth added premeasured quantities of salt, flour and sugar under supervision. She also cracked eggs and added the contents to a mixture, squeezed lemons, and placed out paper baking cups for the batter that the other novices were mixing.

Elizabeth's gradual initiation to the practice of baking was much the same as that experienced by her mother and sister. During the interviews, Joan said that her early instruction in baking came, "From my mother, just like this", when she was about five or six. Jessica also said that her first participation was much like what Elizabeth was currently experiencing, "Well, I usually help my Mom with things like these. I've been helping her for about three years...I started to help and watch...I sat on a stool and I didn't do the things that were like too hard for me 'cause I was too little."

A friend of Will's was visiting after school during the first session. As the group worked, he would come to the edge of the activity and observe. He then began asking questions like, "Are these walnuts?", and later, when observing the participants dropping cookie dough on a tray, "Why do you roll them and not smush them?". The answers that were given were another chance for the participants to confirm that they had relatively more expertise than others,

even if they lacked a broader confidence in their abilities to handle all aspects of baking.

This peripheral involvement by Elizabeth and Will's friend was farther from the centre of the activity than that of the children in the study. The varied ability and understanding of baking that became evident through such participation, helped the others to understand their abilities not only in terms of what they are able to do at the moment, but in terms of how far they had come from their first baking experiences. Feedback from both within the activity and from its relative periphery, combined with participation in the task to contribute to identity formation.

Baking a Product

It was evident early in the study that the product baked that day was of central importance to the activity. The focus of the participants was not abstract knowledge that might some day be applied in a practical setting, or for Joan to attempt to teach a skill-of-the-day.

Each session had as its goal an edible product. That it was done well was important to both Jessica and Wendy. When Jessica was asked what she considered her favorite part of the whole activity, she responded with a giggle, "Umm, probably eating it."
Wendy responded, "Well, I like mixing the stuff together, but I think the best part is eating it."

Mira also confirmed the importance of the product to Wendy. She stated, "You know,... she could take this wonderful little package home and show everybody what it was. That was very important."

Expert Guidance

A vital and ongoing part of the success of each week's activity was Joan's role as director of the work that the group members undertook. She initiated activity at key times in the preparation and baking of every project, and supervised the actions of those involved in order that the outcomes would be satisfactory. In addition, Joan offered safety tips, encouragement, and advice as much as formal instruction. She made sure that hands were clean before food was handled, and coached the participants as they undertook their various tasks.

Though important, Joan's involvement was at the same time subtle. Her presence, expertise and instruction were not the primary focus of the activity. Rather, she worked along side the novices as together they attempted to prepare a tasty final product of which they could be proud.

Wendy indicated that working with Joan, instead of for her, had influenced both the way she came to know Joan, and the way she understood the activity. Initially, Joan was for her a relatively remote adult. She stated, "Well, she was like a stranger that I didn't know, and I didn't think that I could get to know her or anything. Like, usually kids' Moms just say "Hi" and everything. Like you never really know

them. I've talked to her and I like *know* her."

The change in the way that Wendy saw Joan paralleled a change in the way she understood the sessions. Initially they were a kind of baking class, but by the end, they were, "... like a meeting". Wendy was beginning to view herself more as a co-participant than a student.

Shared Work

Since the product was important to the participants, they all wanted to make sure it was well prepared. To that end, expert and novice activity was cooperative. Joan was not stepping back and letting the children do all the work while she advised them. Neither were they forced to watch Joan from the edge of the activity with little chance to contribute.

The extent of the cooperation is evident in the following examples of activity:

-Joan held Wendy's hand and together they scraped the sides of the bowl as the beaters of the mix master turned slowly and Jessica added hot water.

-Jessica held up the mixing bowl and Joan steadied it as Wendy scraped the mixture into the baking pan.

-Joan raised the end of the pan and Jessica spread the mixture into the corners.

-Joan brought out the hand mixer and went over the rules of operation. The children said along with her, "Make sure it's off..." Wendy plugged it in and Jessica began beating the eggs. Wendy took over within a minute or so. The beater

wobbled and both girls laughed. Jessica gave Elizabeth a brief turn. Elizabeth was quite hesitant and Joan held the mixer as she got control of it and got it going. Then Elizabeth had a brief turn on her own. Joan advised her to "go in the corners". Elizabeth turned the mixer over to Joan who finished blending the ingredients while Wendy and Jessica read over the recipe. Elizabeth added the sugar to the mixture. She had to climb up on the counter to reach easily. Jessica wanted to add a pinch of salt, and Joan coached her as she poured a bit onto her flat palm.

-When the batter was spread out in each pan, and when fingers, forks and spoons were licked, Joan showed the children how to pick up the trays lengthwise along their forearms so that they could easily be slipped into the oven. They each carried a tray downstairs to the oven. Joan opened the oven for them. Jessica was reluctant to get too close to the hot door at first, but when Wendy volunteered to put hers in first, Jessica immediately stepped up to slip hers in alongside. Joan set the timer.

-Joan demonstrated the spatula technique for folding ingredients together as Brian added the butter.

The part that each participant played in completing the weekly tasks was important to the success of the entire effort. An element of competition and pride helped the girls to make an extra effort to overcome difficulties. In turn, they were able to assist others.

Physical Coaching

In some circumstances, the shared work became a form of physical coaching. Words alone, or words given in conjunction with a demonstration, were at times insufficient to convey the method required for successfully completing a task. In these cases, Joan would work closely with the novice until they could get a feel for the task.

-Jessica measured butter while Joan first held the butter container and then helped her daughter fill the measure completely and level it off. This assistance was part demonstration and part physical coaching. Verbal instructions were not given.

-Elizabeth put the measured flour in the bowl and Joan helped guide and steady her hand.

-Joan helped Wendy add her butter to the dry mixture.

-Joan and Wendy got the baking powder ready. Joan showed her how to scrape off the excess to get a level measure using the inside of the round baking powder container. Wendy then completed the task effectively on her own.

The projects were very much hands on. Each participant was able to get their hands on the materials being prepared for baki84ng, and Joan's hand was often on a novice's hand to help them understand a particular techniques that would help make that project a success.

The Recipe Book as "Expert"

Another ubiquitous aspect of the project was the recipe

book which guided the joint activity and supplemented Joan's expertise. The recipe book was an authority deferred to by novice and expert alike as they worked together to prepare appetising baked goods. The participants would repeatedly refer to either the ingredients or baking instructions to make sure that the recipe of the day proceeded successfully. Joan used her experience to select recipes that could be done in the time available, then she gathered the materials and assisted the novices in preparing them for baking. However, there were frequent checks with the road map that the recipe provided; it proved to be another expert offering everyone assistance to their endeavours.

The opportunity for the novices to see Joan referring to the recipes might also have helped them to understand expertise in baking as a continuum. No matter the skill level of the practitioner, there are always things to check and learn.

The joint activity that surrounded obtaining information from the cookbook was also another example of its importance to the pursuit of a common goal.

-Jessica read the next ingredient from the recipe as Jean looked through a container of measuring spoons to find the appropriate one. When Jean had located it, Joan said to her that the recipe called for, "a level teaspoon or less".

-Jessica checked the recipe for the amount of boiling water to add. She said to the other participants that you can tell it is boiling by all the bubbles. Joan put water into the microwave to heat it.

-Joan and the girls read together from the cookbook about how to roll the cookies and drop them on the cookie sheet. Joan then demonstrated their placement on the waxed paper. As she did so she advised, "Any closer than that, and they'll stick together."

-Joan asked, "How long do they have to bake? How hot do they cook?" Perry gave the time and oven temperature.

-Wendy read the recipe and was unsure if it called for teaspoon or tablespoon. Joan said to her, "An upper case 't' is for tablespoon not teaspoon." Wendy then read the amount required. Joan urged her to go over all the instructions so far, "Read it out loud so we can check and see if we have everything." Wendy reread the recipe, then turned it over to Jessica who read how to combine the ingredients. Joan asked where the mixture would be put once it was prepared. She referred Jessica to the recipe to find the answer. Wendy checked quickly and responded, "A greased pan."

-Jessica found the container of peanut butter and asked, "One half cup?" Joan asked Wendy to, "Check the recipe." Wendy read the amount from the recipe. Joan asked, "Is that melted butter?"
Wendy responded, "No." Joan said, "Go over it from the top. I do this all the time." Wendy then quickly read aloud through all of the ingredients and amounts for the others.

-Jessica asked, "What's next?" Joan said, "You tell us."
Jessica read the recipe and had trouble indicating from the way the recipe was written, whether that should be two

tablespoons or two teaspoons of coffee. Joan asked her, "Is that with an upper case 't' or a lower case 't'?" Jessica responded, "A lower case 't'." Joan said, "Then that's teaspoon." Joan then went to the recipe herself and read from it. She asked Wendy if she had added the proper amount of salt. Wendy responded, "Yep."

Mistakes and Their Correction

As they participated in the weekly baking session, the members of the group did make mistakes. Failure, however, was not part of the experience. The nature of the practical setting was such that mistakes did not ruin a recipe, but rather contributed positively to the novices' growing sense of understanding. In every case, the participants were able to make some adjustment or compensation in order that the project would still be a success.

For example, when dealing with eggs, the girls began by discussing the importance of keeping the shells out of the mixture. The eggs were divided up evenly between the girls and Wendy began by cracking an egg tentatively against the side of the bowl. It took six or eight taps to crush the side of the shell. She then pried open the egg and the contents were successfully added to the mixture. Jessica gave Elizabeth one of her eggs to open. Elizabeth tapped it lightly once, and then cracked it hard against the bowl. White from the egg spilled on the counter. This caused Elizabeth some concern, but she added the contents that remained in the egg and Joan got a metal spatula to lift up

the spilled white and add it to the bowl. There was no reprimand or fuss about her less than polished effort from either Joan or the older children. And the mistake did not interfere with the success of the project.

In another instance, Joan put some flour into a large measuring cup and set in on the counter. As she went to get a measuring spoon, Wendy reached over and added all this flour to the bowl. It was too much. Joan said to her, "We were going to measure it.", and added that the amount in the measuring cup was for convenience as an accurate measuring spoon full could be taken more easily from there rather than by dipping into the large flour bag. Joan then used the measuring spoon to lift out what flour she could salvage from the mixture, and then judged that the amount left would be about right. As she did this she said, "We'll just wing it." Wendy mouthed, "Oh..." and looked concerned, but Joan assured her that it would be fine. Wendy replied, "Yeah...Oh well." Jessica thought that Joan had been so successful at removing the flour, that there may not have been enough flour added in the end. Joan added a small spoonful more and attention then turned to squeezing lemons. The project continued to a successful conclusion.

In most instances, situations that might lead to problems were caught early and corrections in technique were all that were needed to keep the project on track. When salt was to be measured, Joan got out a large plastic measuring cup to place under the measuring spoon in order to catch the extra salt that might spill as it was poured from the box.

Joan advised Jessica and Wendy to, "Pour it over another bowl, not over the real measuring. It reduces spill damage." Here, close supervision and prior experience helped to minimise the number of mistakes made and the need to correct them.

At times, a mistake was part of the experience of getting better at some skill. In one instance, Joan instructed Wendy about how to set the oven timer. As Wendy operated the controls, Joan watched her and cautioned, "It goes fast, so slow way down." Despite this, the timer went too far but Wendy quickly reset it in a second attempt without overshooting the desired setting. "Perfect!" was Joan's response to her correction.

At other times, a mistake was seen to be part of the normal way of things during baking. For example, spilling was seen less as a error than an everyday occurrence. Once, Joan came over to scrape down the sides of Wendy's mixing bowl, and said, "You're so careful! You don't need to worry about spilling a bit on the counter." At another time, when some flour spilled on the counter as it was being measured, Joan said, "A mess is O.K."

Eating

Eating the final product each session was both a symbolic and a concrete reward for the participants. A tasty product showed not only that the team work and effort had been successful, but it also provided a means of celebrating this success. As was mentioned earlier, the quality of the

finished product was an important means by which the novices judged their abilities. They also used it to demonstrate these abilities to their families.

The freedom the participants had to nibble ingredients as they worked provided part of the engagement with baking. Licking fingers, beaters, spoons and bowls was common, as was sampling ingredients such as chocolate chips as they were added to mixtures. Feeling, watching, smelling, and tasting batter and dough provided a joyous means of contemplating how the ingredients might taste in the final product. The impressions the participants gained also offered an opportunity for them to tell others about their favorite recipes or steps in the baking process. Experiencing the ingredients and final product in this way, offered an opportunity to understand better both the baking process and each other.

General Conversation and Story Telling

Conversation not directly related to the project at hand was not a common feature of the baking sessions. I had expected that the participants might have frequently shared stories or insights gained from past baking experiences as they worked. Lave and Wenger relate the importance of stories to the development of identity in midwives, and nondrinking alcoholics, but such conversation in this study was nearly non-existent (Lave and Wenger, 1991: pp. 67-69 and 79-84).

Joan once said that she would sometimes like to stop a project when she had finished mixing the uncooked dough. She

said that she liked the taste of it. Another time, Wendy mentioned that she had prepared a meal of Hamburger Helper™ the previous day and it had turned out well.

On three occasions, during short breaks to gather ingredients, there were very brief discussions of staffing changes at the children's school in the coming year. Otherwise the conversation and attention of the participants was clearly focused on the baking task at hand.

It did seem, however, that general conversation was more a part of the overall setting of the baking rather than a particular part of the activity itself. In her interview, Mira stated that Wendy had thoroughly enjoyed the after school baking sessions. Part of that enjoyment came from the chance to socialise in a new setting.

> I think the experience was very positive. Wendy came home very happy. She'd had a lot of fun. She enjoyed being with Jessica. I think too, because they are friends. It was very positive from her....She enjoyed it, she enjoyed doing things like..she enjoyed the cooking...and just the fun. I think too, you have to take into account that we live on an acreage so we don't have this kind of activity after school, ever! Other than in our own home, but not with other friends..that extra curricular friend thing. She really enjoyed it. She had mentioned too, "I almost wish we lived in the city. I *almost* do." She enjoyed the walking home experience with Jessica. Just doing a different routine I guess. It was different than riding the bus and coming home and you know sitting down at the kitchen table and talking to Mom.... It's a different angle, you know? ... It was something she had never experienced before with going to a friend's house and walking home.

The participants were able to visit on the way to Joan's house, and as they ate a snack while waiting for me to

arrive. They also had about thirty minutes after each session to work on homework, visit and watch television while the day's project was baking.

Wendy regularly brought home stories of her baking activities at Joan's house. Mira said that she talked about, "... what she had done, like... 'I did this all by myself this time.' and 'Jessica's Mom helped me do this, but I did this.' Her stories at home were part of her enjoyment of the activity.

Jessica also talked with her mother about the activities that had been done and gave input into what the next project should be. Joan said, "I've given Jessica a lot of opportunities to tell me what she wants to do, so this week I will give her something that she does really want to do and it will be a little more complicated. So maybe she really will feel a success."

Stories and conversation appeared to be more important to building relationships and identity before and after the day's project, than during the baking itself.

Play

Though the participants were serious about working together to produce an acceptable product each week, play and playfulness were important to the process.

Much of the freedom to find fun in serious proceedings stemmed from the way in which Joan allowed the children to participate on their own terms. She said that she was open to having the children come and go to a certain extent

because, "...I think if you have to keep them on task it is too much like a school structure and they lose interest." She added that it is "quite natural" for children to make a concerted effort in an activity and then go off to other activities and return again later. A typical amount of time for her children to help before they drifted off to other things would be, "Probably not more than about twenty minutes to half an hour but they would have a continued interest and would keep coming back."

"Fun" was a term that arose several times in the interviews with the participants. Mira mentioned that part of the reason that she agreed to allow Wendy participate in the study was, "I knew that she was going to be safe, and I knew most of all, I mean most important, was that she was going to have fun." At the end of the study she said of Wendy's experience, "I think it was very positive. Wendy came home very happy. She'd had a lot of fun."

Wendy said, "Here it's just like only a few of us, and it's more fun because we do... more jobs and we get our turn, instead of like (at school where) everybody has to take their turns and everything with twenty six or twenty seven kids." For her, the fact that she had ample opportunity to participate in the "work" was fun.

Jessica mentioned that she was interested in participating in the study, " 'Cause I thought it would be fun." She also stated that she didn't mind waiting for a turn to participate when the group was large, "...'cause it's kind of fun to watch too."

Part of Jessica's sense of accomplishment as well was tied to a feeling of having fun. When asked about what recipe she had been proudest of completing she replied, "Well...I guess some things are funner to make than others so I would remember those things more than another thing."

Joan, too, was aware that fun was part of the motivation for participation in baking. When asked if there was often a competition for spoons, bowls and beaters when work was finished, she said that there was, "...more of a competition to make sure that everybody gets a turn at every activity that looks like fun."

Joan's final interview statement highlighted the importance of an overall positive atmosphere, where adults and children are working together in a spirit of cooperation to reach a common goal. She summed up the experience with, "It *has* been fun hasn't it!"

Coinciding with the fun mentioned above, was a sense of seriousness that gave that fun a purpose. The children knew that they were being observed as part of a university study, and that their actions would be examined in a report. This attention was indeed part of what made them feel special, and it added a certain value to the entire experience. However, they lost themselves in the play of baking to the point where they became absorbed in the seriousness of it. Though aware that the baking was fun, or a game, they became so involved in it that they began to lose their sense of being players and gradually moved towards becoming the bakers whose role they had assumed so completely.

SUMMARY STATEMENT

Changes in understanding and ability did happen as a result of the activity observed in this study. Some change had already taken place, and more would be necessary before the novices would be broadly accepted as experts, but the participants could see more clearly how much they understood about baking when they looked around themselves at the relative abilities of other participants. They focused on serious production of a product each week, and in doing so were guided by an expert. They shared the work in order to more easily reach their common goal, and they received physical coaching at times when they were attempting to master a relatively new skill. The recipe book gave them all ongoing guidance, and when mistakes were made, they were taken in stride and did not stop the project or even adversely affect the outcome. Eating during the projects, and after the baking was completed became a way to celebrate the success of the day's work. Also, surrounding and infusing the activity was conversation, story telling and a sense of fun that helped make the experiences so engaging.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND IMPLICATIONS OF THE STUDY

Summary

Purpose

A review of recent and relevant literature revealed that very little has been written about how children learn through participation in social practice. Studies of various types of apprenticeship, where novices gradually move into greater participation at the centre of a craft or trade, dealt mostly with adults or youth in their late adolescence. Otherwise, literature dealing with learning is mainly concerned with pedagogy and psychology. It was the intent of this study to add to this literature from the point of view that practical experience alongside adults as they engage in their normal activities would lead children to new understandings of themselves, the adults, and the nature of the task at hand.

The question that became the focus of this research had two parts. First was to ask if legitimate peripheral participation of children in an authentic adult practice outside of school would lead to a change in social identity and learning on the part of those children. A secondary focus was to explore the nature of children's authentic participation in adult activity, and to ask what factors might contribute to a change in identity were it to arise

from such participation.

After the question was defined, it was necessary to make methodological decisions which would best suit the nature and intent of this study.

Methodology

The nature of the question determined the particular methodological framework within which to work. Since the question proposed to examine the subjective experience of those engaged in an authentic adult practice, a naturalistic inquiry and qualitative research methods seemed most appropriate.

A conceptual framework of symbolic interactionism was selected because it offered guidelines for analysing social organisation that remained sensitive to the understandings that participants in that social organisation develop. This framework also permitted the voices of the participants to express their meaning as they defined themselves, interpreted the actions of others, and participated in joint activities.

I assumed the role of participant observer in order to become better acquainted with the participants and the context in which they worked. Six participant observation sessions were conducted over the course of eight weeks. Interpretations arising from the observations were triangulated through semi-structured interviews conducted half way through the study and again at the end, and through participant feedback concerning the study's findings.

An adult who regularly baked for her family agreed to allow children to work with her once a week. Five children agreed to participate in the study. One child moved away after the first week of the study and two others were not able to attend all the sessions, so the primary focus of the observations and interviews was on the activities of two grade five girls who worked with the adult to bake a product for their families.

Four other children and one other mother were either interviewed, were present for some of the observation sessions, or participated in the baking to a certain extent. The observed activity and interview feedback provided by these five people was also added to the data collected.

The preliminary study was conducted as an action research project in which teachers explored the use of computers with the assistance of their peers. As a friend and co-worker, I was able to approach three teachers who readily agreed to participate. Though multiple demands on the participants' time posed some problem for the group, we had no difficulty in finding a place to work together. All the participants played an active role in shaping the project and in informing the findings, and as well as learning more about computers. They also became increasingly aware of how decisions made outside the group with regard to the use of computers in the school impacted on the group's activity and how the participants learned.

Field notes and taped interview transcripts in both studies were transcribed, and the information categorised and

analysed through the process of analytic induction.

Findings

Findings were reported in chapter five. Analysis indicated that both the adults in the preliminary study and the children in the main study had changed their understanding of themselves and the activity of which they were a part. Ten thematic categories of activity emerged from the data collected in the main study. These categories appeared to contribute to that change in understanding and had parallels in the preliminary study.

Literature on social production and reproduction, as well as that concerned with apprenticeship and situated learning, is able to sustain and inform these findings.

The first finding was that in both studies, the novices' awareness of the abilities of those around them helped them gain a clearer understanding of their own abilities. They were able to help each other, and relatively less skilled participants. As a result, they could see that they were making progress in their understanding and performance of tasks. They could also look to the example set by the expert to see where further development was possible and in what areas they would be able to improve.

Each novice was involved in a manner appropriate to their level of ability and understanding. As with apprentices studied by Goody (1989), younger children in the main study were involved in interactions that were highly

structured for them by adults. At the same time, nothing in the world of this particular adult activity was hidden from the children or barred to them. Initially, the main task of the child was to participate through observation and listening. Next, they became involved in the finishing stages of production where they gained a broad understanding of the craft. Then they gradually moved into tasks earlier in the stages of production that were more critical to its success. At each stage, they were able to seek help from those around them who had relatively greater skill or experience.

The second finding was that an actual product was an important outcome of the activity. As Marx states, "Social relations are closely bound up with productive forces." (Sayer, 1989: p.30). The production of practical classroom work on computers in the preliminary study, and a baked product each week in the main study, provided an essential platform upon which to build both practical skills and the social relations that gave those skills meaning.

In the main study, the fact that the day's project was being produced for the bakers and their families also contributed a great deal to the motivation of the novices and their subsequent identity development. Marx again provides insight into this situation when he writes about the implications for freedom of separating labour from its product, "If the product of labour does not belong to the worker, if it confronts him as an alien power, then this can only be because it belongs to some other man than the

worker...If he treats his own activity as an unfree activity, then he treats it as an activity performed in the service, under the domination, the coercion, and the yoke of another man" (Ibid. p.186).

If the activity had been set up as part of a commercial concern, there would have been a greater likelihood that the children would have felt that they were being either used or tolerated, and this may well have affected their enthusiasm and thus their learning.

The fact that so many adults were interested in the nature of this study yet were unwilling to become involved, in contrast with the ready participation by teachers in the action research project, may have also arisen from this point about who would own the labour. The teachers were working for their own professional development and expected to benefit directly from their improved skills. If the children had been allowed into a commercial practice, they may have cost the worker productive time, and if they had eventually been given a task, it may not have been completed to the expert's satisfaction.

The difficulties that arise around this aspect of the expert-novice relationship would be worth further examination, particularly in future studies concerning work experience programs in secondary schools.

To avoid the exploitation of younger children, a non-commercial activity where the novices have some control over what is produced seems to be preferable. It may be an important part of securing parental approval for their

participation as well.

The issue of workplace exploitation could also be examined in light of whether or not young co-participants in an adult community of practice are paid for their labour, who sets the rate of pay, and what that rate is. This issue would be an effective point for commencing a study of how adult members of these communities value the contributions of younger members to overall productivity. Questions concerning the value of teenage labour, or even the labour of younger children participating closer to the periphery of practice, could serve to shed light on the reluctance that some adults expressed with regard to having children enter their practice.

The third finding involved the importance of expert guidance to the novices. Graves writes that the expert serves two vital roles. These are socialisation of the newcomers into an activity, and social control (Graves, 1989: p. 53).

In the preliminary study, the teachers responded positively to the fact that they were working with more experienced peers rather than performing for an outside expert. They felt a freedom to question and explore in ways that would not have been possible in a more structured professional development situation.

Joan's quiet and ongoing instructions and advice were vital to the novices' introduction to the sometimes subtle values and norms of baking. Furthermore, her instruction was important to removing the potential for disruption that may well have happened if a group of children were turned loose

in a kitchen with equipment and ingredients. The children were certainly learning by doing, and they developed understandings that influenced the way the community of practice operated, but Joan provided a scaffolding of support that gave their early efforts structure until they were more capable of working on their own.

In such a domestic craft, "...the apprentice relates not to a unit within an organization, or a subset of employees, but directly to a 'master'. Significantly, the term used by most writers for the one who trains is not 'teacher' but 'master'" (Goody, 1989: p.249). This may be what was behind Wendy's comment that Joan had become less of a teacher as the project went on, and that she had come to know her in a different way. As Wendy was coming to see the community of practice as less school-like, her comments could indicate that she was aware of a subtle shift of authority from the expert's understanding to the community of practice as it was cooperating to define problems and propose solutions.

The fourth finding was that shared work was important to the enjoyment and success of the participants. The novices in both studies were very much free to learn from each other and to steal the knowledge they needed to get a job done. Hutchins writes that, "In many human systems, as people become more skilled they move on to other roles in the task performance group, making way for less skilled people behind them and replacing the more expert people before them who advance or leave the system" (Hutchins, 1993: p. 49). At the same time they collaborate on tasks to the extent that if one

person is unsure about the next step, another person steps in to provide additional information to resolve the ambiguity (Ibid. p. 51). This type of joint participation was a common thread of activity woven throughout both studies, and again serves to illustrate the importance of understandings that were embodied in the community of practice as well as the knowledge of the experts.

Physical coaching was the fifth finding. Keller and Keller write, "...neither the human organism nor the external world is solely responsible for developing knowledge about the world. The key to a holistic view of knowledge is activity systems in which social, individual, and material aspects are interdependent." (Keller and Keller, 1993: p. 126). They go on to say that, "...action emerges as a process of reciprocal transformations between one's image of a product associated with a plan for production and the properties of the material and social conditions of that production" (Ibid. p. 126). Of further interest is their statement that, "There is a tension to this process between the knowledge and the unfolding experience. Knowledge as organized for a particular task can never be sufficiently detailed, sufficiently precise, to anticipate exactly the conditions or results of actions" (Ibid. p. 127).

When a master is unable to communicate the needs of the task with a novice who lacks sufficient knowledge to understand, it becomes necessary for the master to find another means of passing on their meaning. When working with an intransigent computer mouse or material such as heavy

dough, a novice may not be able to understand the feedback that it is giving. When an expert puts her hand on a novice's hand, the novice can feel what type of working the object or material requires, and what action the practitioner must take in order to do the working properly. This tactile input from either the mouse or the dough, and the expert's guiding hand can help the novice come to a sharper understanding of the demands of the task than could words alone. Touch becomes an important part of an activity system in that it helps to, "... integrate subject, object, and the instruments..into a unified whole..." (Chaiklin and Lave, 1993: p. 18).

Sixth, the recipe book and the user's guides for computer applications were important to the development of novice understanding for much the same reasons as was the expert's guidance. They offered a controlling and guiding influence on all the participants. Each person could access a written record of collective community wisdom in addition to available on-site expertise, and all activity, no matter how skilled, continued to require direction.

A discussion of the importance of written guides also serves as a means of introducing an understanding of text to the examination of communities of practice. Both the computer users and the bakers relied on guides to promote successful task completion, but in both studies the information that the guides contained was used as the situation required, and as the participants saw fit. Guidebook knowledge was an important contributor to successful completion of tasks, but

it was not totally dominant.

For the teachers in the preliminary study, text in the form of readings about teacher voice was used to stimulate reflection on processes, problems, issues, and constraints surrounding the learning and use of computer technology in their school. These readings did not tell the teachers how to see their situation, but instead opened up new possibilities for critical reflection on practice, and helped give the teachers a means of expressing their ideas and relating their experiences. They were gradually gathering the tools that could enable them to move from the periphery of the district's community of computer users to a position closer to its centre. And as they moved, these computer novices carried the potential to introduce ideas and attitudes that could affect group practice.

In both studies, the participants came to see that understanding practice was an ongoing process; more of a journey than a destination.

Seventh was the finding that mistakes were a normal part of both baking and computer work, and that these mistakes need not ruin an effort or result in its "failure". If errors did occur, they were caught by others who likely had encountered such situations before and were able to compensate. When feedback about an error was given, it served to inform others also involved in the task, and their knowledge was also improved.

Errors in the baking activity observed for this study, as in Hutchins' study of apprentice quartermasters, thus

served a useful purpose.

> In a system populated by novices and experts, many errors are likely to occur, but because there are many sources of error correction, most errors are likely to be detected. This observation leads to the somewhat paradoxical conclusion that some nonzero amount of error may actually be functional on the whole....every error correction event is a learning context not just for the person who commits the error but for all who witness it. (Hutchins, 1993: p. 58)

The eighth finding indicated that eating was an important part of the baking experience. Nibbling ingredients and dough during the preparation for baking was part of the novices' engagement with a concrete experience. Their sampling of the finished product and taking some home to share with their families served to mark their success in much the same way as rock cairns on mountain tops do for mountain climbers. Cairns mark the climbers' success and provide a focus for them to stop a moment, look back on their journey, and celebrate how far they have come.

For the teachers participating in the preliminary study, such points of reflection were provided when others became aware of what they were producing on the computers and began to see them as relative experts and sought their assistance. This was as rewarding as eating one's fresh baking, or reaching the summit of a challenging climb.

The ninth finding dealt with the surprising lack of story telling during the baking activity. The literature indicated that in apprenticeship, stories play a major role in decision making (Lave, 1991: pp. 108-109). Stories serve as packages of situated knowledge which experts use to help

the participants in an activity make decisions.

In this study, stories and general conversation were not a large part of the baking activity. There was, however, a great deal of talk going on in each session as participants gave voice to their experiences, and it played an important role in their making sense of the activity at hand. Boden sums up the importance of this ongoing talk, even when it is part of the taken-for-granted background, when she says, "The role of language and meaning is central to all that flows from them; namely that the significant and shared symbols that constitute language gives rise to thought, which in turn contributes to the constitution of the social self, which is, in its turn, possible only through social interaction and so forth" (Boden, 1990: pp. 244-245).

Consequently, though talk was common, the lack of stories surfacing from it could be due to the fact that the novices were so completely engaged in the activity at hand that they were unable to recall and relate past experiences to their tasks. Also, their relatively limited baking experience, and the way in which problems were so readily worked out, may have limited the material for "war stories" that could be used to inform appropriate activity.

Stories were very much a part of the debriefing that the novices did with their families after the activity, and during the after school snack that the participants shared before beginning work each week. Perhaps as their experience grows, they will be able to incorporate stories into their activity since the novices recognised story telling as

something that adults do when they work together in similar situations.

In contrast with the main study, conversation and story telling in the preliminary study were essential to maintaining the cohesion of the action research group. Indeed, soon after the action research project was submitted for evaluation, changes in the computer lab stalled further work for several weeks. A hectic June followed by staff transfers and reassignments resulted in the participants once again being forced to rely on their own resources in order to advance their skills with computers. The subsequent breakdown of a social connection between the participants rendered further progress as frustrating and difficult as it had been before the project. Lacking someone with whom to share both questions and triumphs, and a reason to get together, may well have impeded the progress the teachers experienced through their work together.

Finally, the tenth finding dealt with the importance of a sense of play that infused the activity of both studies each week.

In societies which have a domestic mode of production, children may begin to learn about an activity by playing along beside their parents (Goody, 1993: p. 238). In the main study, the novices' participation was in much the same vein. As the weeks went on, their play and sense of fun served to free the participants from the situational constraints that are present in every action (Vygotsky, 1978: p.96). The novices were able to escape to a certain extent

from the limits that their childhood placed upon them. Their play created a zone of proximal development and in that play they began to behave beyond their age or above their daily behaviour (Ibid. p. 102). Play provided a wide background that allowed for changes in novice needs and consciousness.

The teachers in the preliminary study also began their apprenticeship in a playful way. Co-workers provided the scaffolding necessary for them to escape from the constraints they had experienced previously when computer instruction had been treated primarily as a serious professional activity.

As the novices in both studies entered more deeply into playing the role of competent bakers and computer users, their play also served as a type of test. As Gadamer writes, "Whoever 'tries' is in fact the one who is tried" (Gadamer, 1992: p. 106). By encountering these tests, the novices saw that both their success and periodic error correction was part of the engagement that the situation provided as it led them into ever more competent role playing.

Conclusions

Introduction

Although the conclusions which follow are based on two small case studies involving only twelve people, I suggest that they are significant in that readers are able to identify with the people, the settings, and the circumstances that surrounded the baking and computer sessions. It is not

the purpose of naturalistic research to discover general principles, but rather to provide a rich description that enables others to identify with the study and take their own meanings from it.

The conclusions and implications represent my attempt to interpret the data in a way that will speak to people who have participated in similar situated activities.

Concluding Statements

A. Legitimate peripheral participation of children alongside an adult engaged in an everyday practice can lead to changes in identity which are manifest in the learning of new skills and the development of new understandings.

B. Novices become more effective role players in a situation by examining feedback from the practical setting and the material or tools with which they are working, by taking hints from other members of the community of practice such as the expert adult practitioner and other novices with relatively greater skills, and from written texts such as recipe books or manuals. In effect, they are stealing the knowledge needed to function effectively in the situation from the social setting in which they find themselves.

C. Identity change is a gradual process which takes

place through cooperative approaches to task completion and problem solving in a practical context. The change involves a progressive development of skills, understandings, and the building of closer relationships between expert and novices, and between the novices themselves. Also important is the fact that people outside the group begin to realise that change is taking place.

D. Establishing a setting for expert-child co-participation can be a difficult process. Without some prior contact, if not a previously close relationship, experts are reluctant to take on novices, and novices may be reluctant to enter into the activity.

Implications

Based on the literature devoted to an understanding of learning as identity formation through participation in everyday practice, and in light of the analysis of the data gathered in this study, certain implications may be considered. The following sections highlight some of these implications for practice and for further research.

Implications for Practice

The results of this study underline the importance of social situations to learning, since learning, like meaning

arises from a participant's ongoing involvement in a community of practice.

When there is a cultural splitting of the child's world from that of adults, as is often the case in modern Western society, it becomes difficult for parents to maintain an influence over what their children learn.

This study indicates that joint activities that children engage in with their parents have important educational implications. A family group can provide experts in practical activities, along with a novice-expert ratio that would allow hands on guidance. Parents would also be able to introduce children to family traditions. Stories of grandparents and other elders might help children see that the world around them has not always been this way, and is still changing. Situated learning in this setting might help children to get in touch with both their cultural roots and natural heritage far more effectively than in a large, heterogeneous class at school.

This study also indicates that, outside of relatively closely knit pre-existing groups, establishing and maintaining groups can be a long and uncertain process. In cultures where economic production requires that skilled labour reproduce itself through the apprenticeship of children, experts and novices come together due to these specific mutual needs.

In Alberta, where formal schooling is the norm for training children, and economic or career choices are more individualistic, connecting children and experts is not

easily done. Here, experts have often established their work routines in such a way that involving novices would be at best an inconvenience, and at worst a costly burden. It may also be their understanding that children are best served by gaining educational credentials rather than by attempting to gain access to adult practice.

For vocational or work experience programs involving older students, this study indicates that some prior connection between the student and expert with whom they are assigned to work might make the experience a greater success. If the expert agreeing to take on students is connected to them in some way outside the boundaries of the school program, this prior social connection may make the working relationship more productive, satisfying and long lasting.

Since commercial ventures do not appear to lend themselves to the involvement of younger children, exchange programs and service projects in the community might prove to be a more effective way to make initial contacts. Exchanges are already being used to bring children more readily into contact with families of other cultures and their authentic daily activities. This is serving to promote language learning as well as greater intercultural understanding.

Exchanges could also prove useful in bringing together children from urban and rural backgrounds. If children from remote areas could experience city life alongside experienced urban dwellers, they might find it easier to come to the city when faced with the need for such things as post secondary education. Conversely, city children spending some time on a

farm might gain a new appreciation of the path food takes on its way to their table, and of the health, entertainment, transportation and other needs of people living far from the services available in metropolitan areas.

Children across Alberta are currently involved in many environmental awareness activities through a variety of educational programs sponsored by the government and private or non-profit agencies. It is uncommon though, for students to work on cooperative ventures with adult experts who are going about their daily tasks. The specialised and highly technical nature of much adult work means that young students could not take part beyond the initial exposure of a classroom visit by an expert or by a field trip to visit their workplace.

Service projects, on the other hand, which involve such activities as landscaping or tree planting in parks, or working in a local food bank, could unite children with experts who would find their assistance a genuine asset. In such settings, young people might be better able to come to a new understanding of some of the sympathies in the community outside of the school culture or their own experience, and the groups or individuals engaging them might be able to provide them with very practical and productive experiences. Also, once students return to the classroom, they may well be able to use the knowledge they gained from their experiences to both critique and inform their classroom studies.

Considering the technical nature of much adult expert practice, and the importance the public places on schooling,

it would appear that classroom teachers still have a potential role to play in setting up practical adult-child activities.

In looking at schools, however, differences between adult-child co-participation in everyday activities and the normal teacher-student relations are noticeable. As part of their everyday practice, teachers are expected to function as gatekeepers to higher levels of learning, and indeed to different occupations.

Schools routinely require that teachers separate students from social interaction for the purposes of testing. Rather than working with the students to produce a product, teachers are expected to evaluate what the students produce on their own. Test results then focus attention on students' inabilities to succeed at the tasks set for them, and the students are subsequently ranked according to how they compare to others. The lower students often come to be labelled with various learning disabilities.

As failure becomes a formalised, and often an expected part of schooling, resistance and power struggles separate parents, teachers, and students. Teachers feel judged on the basis of their ability to maintain order and to impose "learning" on students, while students find ways to resist or are silenced by this imposition, and parents are caught in the dilemma of which side to support, and how to do it effectively. Teacher stress and public dissatisfaction with schooling often result.

A combination of abstract and practical learning, where

each enriches and informs the other might go a long way to bringing people together as well as giving classroom studies a broader application to the world outside.

For teachers wishing to incorporate authentic situations and productive co-participation into their instruction, the problem becomes one of either finding enough settings outside of school to involve students closely with adults, or of getting enough experts into the school or classroom to give an activity a sense of "authenticity".

One way this might be done could be through cross graded activities where older children work for and with younger ones. If teachers, who are expert in some activity such as a sport or craft, were able to engage in that activity with a small enough cross graded group, a situation approximating authentic practice might be created. It would allow the teachers to interact with children in such a way as to provide the scaffolding necessary for more competent participation by children in the activity, and might also reduce the divisions fostered by the usual evaluative school routine.

Regardless of how a teacher or school community might choose to engage adults and children in co-participation, the sense of producing a product, and making new discoveries which arise from this production, could do much to helping students feel that they are agents of their own learning rather than the recipients of someone else's knowledge. It would help all involved give voice to both their experiences and their needs, and would help to reduce the divisions

caused by constant evaluation and the prospect of failure.

Implications for Further Research

The difficulties encountered in searching for a suitable setting for this study raise questions about adult-child interactions. Further research could be done in examining how adults view the purposes of schooling and how they would respond to a greater involvement of schools and students in the broader community.

For those interested in school administration, there might be some valuable research done in examining the potential of providing flexible scheduling for students wishing to be engaged in outside activities. Perhaps teaching of core subjects could be concentrated in the morning, freeing the afternoon for practical student involvement in small groups with outside experts in such disciplines as dance, art, physical education, music, drama, language and other cultural activities in these disciplines.

People involved with special education are currently examining the concept of inclusion of special needs students in everyday classroom communities. Research focusing on legitimate peripheral participation of special needs students in the everyday practices of the classroom might reveal ways of structuring learning for students with a variety of particular educational needs so that they are able to function more effectively in these classrooms.

Vocational education might benefit from research into

practical work experience for students that is guided by an understanding of legitimate peripheral participation and of the difficulties that students might encounter in attempting to successfully enter work communities.

This study also has implications for those working in the area of international and intercultural education. For example, researchers could examine the length of time, and the nature of prior connections that are required for newcomers in a cultural setting to be accepted as legitimate peripheral participants in that community's activities, and for these newcomers to feel a sense of identity with members of the community that they are entering.

Concluding Statement

By examining a situation where children were involved in daily activity with an adult, I found it possible to gain insight into the power that such participation has to inform the understandings of all involved. My observations and discussions with the participants in this study also indicated that adult-child co-participation in everyday practice might provide a means of keeping youth in touch with their traditions and the natural world around them, and give those involved a greater understanding of people from different racial, cultural and economic backgrounds whether in the classroom or in the broader community.

This study also signals several ways in which understanding education as legitimate peripheral

participation in a community of practice is important in promoting critical consciousness.

First, focusing on such a community enables us to see how people of varied abilities and backgrounds can act together to analyse and transform their reality, rather than simply understand or cope with it. Joint action, action which potentially includes all of the members of a community of practice rather than action in which some teach and others learn, is potentially more empowering when directed at finding solutions to social or environmental problems than expecting students to act alone once they come to understand that problems exist.

Second, legitimate peripheral participation not only enables communities to draw closer to the centre those who stand at the margins, but also enables these communities to see the "peripheral" position as important and valuable to the community rather than just as a "site of learning" for the individual who fills it.

Third, placing emphasis on the knowledge embodied by the group, rather than that held by those in authority, serves as a means of countering the culture of silence. In approaching any shared problem-in-action, the input of each member is of value to the solutions proposed by the group.

Finally, redefining teacher as learner in a practical context can bring student and teacher closer together. "The teacher is no longer merely the-one-who-teaches, but one who is himself taught in dialogue with the students, who in turn while being taught also teach" (Takata, 1991: p.255).

It is my hope that an increased understanding of legitimate peripheral participation in communities of practice provides those of us involved in education with a means of moving forward, together, to a more just future.

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APPENDIX A

CORRESPONDENCE

CONSENT FORM

April 12, 1995

I, the parent of the participant, understand that my child's participation in the study *Legitimate Peripheral Participation of Children in Everyday Practice* involves her engaging in six sessions of baking and allowing the researcher to observe these sessions and to conduct interviews to gain a clearer understanding of what the sessions meant to her.

Additionally, I understand that all information arising from my child's participation in this study will be kept confidential and her identity will not be revealed. Pseudonyms will be used for any names that may be mentioned.

I understand that I am free to withdraw my consent and discontinue my child's participation in this study at any time.

It is my understanding that the final report of this study will be a thesis for the degree of Master of Education. I further understand that all questions I have about the study will be answered by the researcher.

I understand that any direct involvement that I may have with the study is completely voluntary and that the information I

provide will also be kept confidential.

On the basis of the above statements, I agree for _____ to participate in this project and give the researcher permission to print verified quotations from the field notes and interviews in the final report.

_____ _____

Parent's Signature

Researcher's Signature

_____

Date

LETTER SUMMARISING THE AGREEMENT TO PARTICIPATE

2 Lamoureux Place
St. Albert, Alberta
T8N 2J4
April 12, 1995

Dear _____,

I wish to thank you and _____ for accepting the invitation to participate in my research project, *Legitimate Peripheral Participation of Children in Everyday Practice*. The purpose of this study is to explore ways in which children come to develop their roles and identity through participation in practical experiences in the world around them.

The results of this study will, I believe, be of interest to educators concerned with how children learn outside of a structured curriculum. I hope that these results will be of use to educators interested in ongoing development of responsive and meaningful schooling.

The chief methods of data collection will be through a series of observations and tape-recorded interviews conducted over the next six weeks. I anticipate that each of the six baking sessions will be no longer than two hours each.

To restate the conditions for the study which I discussed with you at our initial meeting, the participation of both you and your child is voluntary and if either of you wish to withdraw, you may do so at any time during the study. All information will be kept confidential by the use of pseudonyms in any reporting be it verbal or written. Only I will have access to the observation notes or interview tape recordings that are made, and these will be destroyed upon completion of the study. You and _____ will be able to confirm or correct any direct quotations that you permit to be used in the final report.

Thank you again for agreeing to be part of this study. I appreciate the time you and _____ will be committing to it. Should you have any questions concerning the study, please feel free to call me at 458-2949. I look forward to working with you and _____ during the coming weeks.

Sincerely,

A. Brent Andressen
Master's Student
Faculty of Graduate Studies and Research